CONTROL OF NARCOTICS, MARIHUANA, AND BARBITURATES

HEARINGS

BEFORE A SUBCOMMITTEE OF THE

COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES

EIGHTY-SECOND CONGRESS

FIRST SESSION

ON

H. R. 3490

A BILL TO AMEND THE PENALTY PROVISIONS APPLICABLE TO PERSONS CONVICTED OF VIOLATING CERTAIN NARCOTIC LAWS, AND FOR OTHER PURPOSES

(Superseding H. R. 1522, H. R. 2340, and H. R. 2645)

AND

H. R. 348

A BILL TO PROVIDE FOR THE COVERAGE OF BARBITURATES UNDER THE FEDERAL NARCOTIC LAWS

APRIL 7, 14, AND 17, 1951

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CONTENTS

	Page
Text of—	
H. R. 348	10
H. R. 3490	1
Statement of—	
Anslinger, Harry J., Commissioner of Narcotics, Treasury Department	202
Cunningham, George W., Deputy Commissioner, Bureau of Narcotics, Treasury Department	56
Donovan, Hon. James G., a Representative in Congress from the State of New York	51
Dunbar, Dr. Paul B., Commissioner, Food and Drug Administration, Federal Security Agency	213
Frates, George H., Washington representative, National Association of Retail Druggists	113
Goodrich, William, Legal Counsel, Food and Drug Administration, Federal Security Agency	213
Higgins, Mrs. Lois, director, Crime Prevention Bureau, Chicago, Ill	81
Isbell, Dr. Harris, director of research in narcotics, United States Public Health Service Hospital, Lexington, Ky	119
Larrick, George P., Associate Commissioner, Food and Drug Administration, Federal Security Agency	213
Rogers, Hon. Edith Nourse, a Representative in Congress from the State of Massachusetts	3
Simpson, Julian B., attorney, Criminal Division, Department of Justice	77
Smart, Elizabeth A., on behalf of National Woman's Christian Temperance Union	118
Thompson, Charles, Deputy Attorney General's Office, Department of Justice	77
Wright, Mrs. Leslie B., chairman, legislative department, General Federation of Women's Clubs	111
Yates, Hon. Sidney R., a Representative in Congress from the State of Illinois	40
Additional information submitted for the record by—	
Administrative Office of United States Courts: 1950 narcotic violations, table	109
American Medical Association, letter from George F. Lull	211
Food and Drug Administration:	
Number of deaths from acute accidental poisoning by barbituric acid and derivatives and number of suicides, table	232
Summary of terminated cases involving barbiturates, table	226
Suppliers of bulk barbituric acid derivatives nondosage form	230
Terminations of over-the-counter and unauthorized refill cases involving barbiturates, April 1, 1951, table	220
Total production of barbituric acid derivatives from statistics compiled by United States Tariff Commission, table	228
Higgins, Mrs. Lois:	
Crime Prevention Bureau, second meeting of legislative committee, March 6, 1950	92
Transcript of proceedings of Chicago Crime Prevention Council, October 19, 1949	82

Additional information submitted for the record by—Continued
Page
Isbell, Dr. Harris:
Addiction to analgesics and barbiturates 147
Addiction to barbiturates and the barbiturate abstinence syndrome 138
Chronic barbiturate intoxication 179
Experimental addiction to barbiturates (motion picture) 129
Manifestations and treatment of addition to narcotic drugs and barbiturates 129
Treatment of barbiturate addiction 196
Justice Department, report of, on H. R. 1522, H. R. 2340, and H. R. 2645 79
National Association of Retail Druggists, letter from George H. Frates, Washington representative 238
Rogers, Hon. Edith Nourse:
Sleeping Pills: Doorway to Doom, article from Coronet magazine, February 1951 4
Testimony of, May 15, 1947 11
Barbiturates: A Blessing and a Menace, article by Samuel W. Goldstein, from Journal of American Pharmaceutical Association, January 1947 31
Barbiturates—Are They Narcotics? article by Samuel W. Goldstein, from Journal of American Pharmaceutical Association, April 1947 28
Letter from Geo. P. Larrick, Assistant Commissioner, Food and Drug Administration, May 16, 1947 11
Review of the Present Status of Barbiturate Regulation, article by Robert P. Fischelis, from Journal of American Pharmaceutical Association, July 1946 13
Treasury Department, report of, on H. R. 1522, H. R. 2340, and H. R. 2645 77

CONTROL OF NARCOTICS, MARIHUANA, AND BARBITURATES

SATURDAY, APRIL 7, 1951

House of Representatives,
Subcommittee of the
Committee on Ways and Means,
Washington, D. C.

The subcommittee met at 9:30 a. m., Hon. Hale Boggs (chairman) presiding.

Mr. Boggs. Ladies and gentlemen, this subcommittee of the Ways and Means Committee, composed of Congressman Harrison, Congressman Granger, Congressman Simpson, Congressman Jenkins, and I, was appointed on motion of the Ways and Means Committee on April 3. Congressman Simpson is out of the city today, and Congressman Jenkins will be here in a few minutes.

The purpose of this subcommittee is particularly to consider legislation which has been pending before the Ways and Means Committee for some time relative to the narcotics laws of the United States.

The necessity for this legislation has increased tremendously, particularly in the last few years, with what seems to be an alarming growth in juvenile addiction.

We have a number of bills which have been introduced by various Members of Congress, and our first order of business this morning will be to hear from the sponsors of some of those bills.

I might point out that during the hearings it is contemplated that testimony will be received from anyone interested in this legislation and, in order to evaluate the effectiveness of pending proposals, an invitation has been extended to all interested persons and organizations to appear and present their views on the following matters: (1) Necessity for strict control by the Federal Government over the distribution of narcotics; (2) the extent to which information in the hands of Federal authorities can be made available to State and local law-enforcement officials; (3) the extent to which Federal statutes are supplemented by State and local laws; and (4) the adequacy of penalties for violation of the Federal narcotic laws.

Our subcommittee, of course, has no jurisdiction over legislation which may have been referred to other committees of the House of Representatives. We will insert H. R. 3490 at this point.

(H. R. 3490 follows:)

[H. R. 3490, 82d Cong., 1st sess.]

[Report No. 635]

[Omit the part in black brackets and insert the part printed in italic]

A BILL To amend the penalty provisions applicable to persons convicted of violating certain narcotic laws, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 (c) of the Narcotic Drugs Import

and Export Act, as amended (U. S. C., title 21, sec. 174), is amended to read as follows:

"(c) Whoever fraudulently or knowingly imports or brings any narcotic drug into the United States or any territory under its control or jurisdiction, contrary to law, or receives, conceals, buys, sells, or in any manner facilitates the transportation, concealment, or sale of any such narcotic drug after being imported or brought in, knowing the same to have been imported contrary to law, or conspires to commit any of such acts in violation of the laws of the United States, shall be fined not more than $2,000 and imprisoned not less than two or more than five years. For a second offense, the offender shall be fined not more than $2,000 and imprisoned not less than five or more than ten years. For a third or subsequent offense, the offender shall be fined not more than $2,000 and imprisoned not less than ten or more than twenty years. Upon conviction for a second or subsequent offense, the imposition or execution of sentence shall not be suspended and probation shall not be granted. For the purpose of this subdivision, an offender shall be considered a second or subsequent offender, as the case may be, if he previously has been convicted of any offense the penalty for which is provided in this subdivision or in section 2557 (b) (1) of the Internal Revenue Code, or if he previously has been convicted of any offense the penalty for which was provided in section 9, chapter 1, of the Act of December 17, 1914 (38 Stta. 789), as amended; section 1, chapter 202 of the Act of May 26, 1922 (42 Stat. 596), as amended; section 12, chapter 553, of the Act of August 2, 1937 (50 Stat. 556), as amended; or section 2557 (b) (1) or 2596 of the Internal Revenue Code enacted February 10, 1939 (ch. 2, 53 Stat. 274, 282), as amended. After conviction, but prior to pronouncement of sentence, the court shall be advised by the United States attorney whether the conviction is the offender's first or a subsequent offense. If it is not a first offense, the United States attorney shall file an information setting forth the prior convictions. The offender shall have the opportunity in open court to affirm or deny that he is identical with the person previously convicted. If he [denied] *denies* the identity, sentence shall be postponed for such time as to permit a trial before a jury on the sole issue of the offender's identity with the person previously convicted. If the offender is found by the jury to be the person previously convicted, or if he acknowledges that he is such person, he shall be sentenced as prescribed in this subdivision.

"Whenever on trial for a violation of this subdivision the defendant is shown to have or to have had possession of the narcotic drug, such possession shall be deemed sufficient evidence to authorize conviction unless the defendant explains the possession to the satisfaction of the jury."

SEC. 2. Section 2557 (b) (1) of the Internal Revenue Code is amended to read as follows:

"(1) Whoever commits an offense or conspires to commit an offense described in this subchapter, subchapter C of this chapter, or parts V or VI of subchapter A of chapter 27, for which no specific penalty is otherwise provided, shall be fined not more than $2,000 and imprisoned not less than two or more than five years. For a second offense, the offender shall be fined not more than $2,000 and imprisoned not less than five or more than ten years. For a third or subsequent offense, the offender shall be fined not more than $2,000 and imprisoned not less than ten or more than twenty years. Upon conviction for a second or subsequent offense, the imposition or execution of sentence shall not be suspended and probation shall not be granted. For the purpose of this paragraph, an offender shall be considered a second or subsequent offender, as the case may be, if he previously has been convicted of any offense the penalty for which is provided in this paragraph or in section 2 (c) of the Narcotic Drugs Import and Export Act, as amended (U. S. C., title 21, sec. 174), or if he previously has been convicted of any offense the penalty for which was provided in section 9, chapter 1, of the Act of December 17, 1914 (38 Stat. 789), as amended; section 1, chapter 202, of the Act of May 26, 1922 (42 Stat. 596), as amended; section 12, chapter 553, of the Act of August 2, 1937 (50 Stat. 556), as amended; or sections 2557 (b) (1) or 2596 of the Internal Revenue Code enacted February 10, 1939 (ch. 2, 53 Stat. 274, 282), as amended. After conviction, but prior to pronouncement of sentence, the court shall be advised by the United States attorney whether the conviction is the offender's first or a subsequent offense. If it is not a first offense, the United States attorney shall file an information setting forth the prior convictions. The offender shall have the opportunity in open court to affirm or deny that he is identical with the person previously convicted. If he denies the identity, sentence shall be postponed for such

time as to permit a trial before a jury on the sole issue of the offender's identity with the person previously convicted. If the offender is found by the jury to be the person previously convicted, or if he acknowledges that he is such person, he shall be sentenced as prescribed in this paragraph."

SEC. 3. Section 2596 of the Internal Revenue Code is amended to read as follows:

"SEC. 2596. PENALTIES.

"For penalties for violating or failing to comply with any of the provisions of this subchapter, see section 2557 (b) (1)."

SEC. 4. Section 3235 of the Internal Revenue Code is amended to read as follows:

"SEC. 3235. PENALTIES.

"For penalties for violating or failing to comply with any of the provisions of this part, see section 2557 (b) (1)."

SEC. 5. There are hereby repealed—

(1) section 2 (f) of the Narcotic Drugs Import and Export Act, as amended (U. S. C., title 21, sec. 174);

(2) the Act of August 12, 1937, as amended (U. S. C., title 21, secs. 200–200 (b));

(3) sections 2557 (b) (5), (6) and (7) of the Internal Revenue Code.

SEC. 6. Any rights or liabilities now existing under the laws or parts thereof repealed by this Act shall not be affected by such repeal.

Mr. BOGGS. The first witness this morning is Congresswoman Edith Nourse Rogers of Massachusetts, who has had a bill pending for some time.

We will be very pleased to hear you, Mrs. Rogers.

STATEMENT OF HON. EDITH NOURSE ROGERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mrs. ROGERS. Mr. Chairman and members of the committee, I am very grateful to you for asking me to appear this morning. I am very much interested in this legislation. As the older members of the committee realize, I have had a bill in for some years. I did not know until late yesterday whether I was to appear; so I do not have all of the material with me. So, if the committee has no objection, I will be very grateful for an opportunity to insert the information which I have in my office.

Mr. BOGGS. Without objection, that may be done.

(There was no objection).

Mrs. ROGERS. I would like to state, first of all, I was asked to introduce this legislation by a prominent man in the country who had become, without knowing it, an addict to barbiturates. In his case, he was becoming weaker and weaker all the time, and he told me he was developing a dual personality. He went to a doctor who finally saved him.

As I think the committee knows——

Mr. BOGGS. I do not want to interrupt you, but suppose you explain your bill briefly to the committee.

Mrs. ROGERS. My bill, H. R. 348, is supported by the Federal Food and Drug Administration. The legislation is necessary to prevent the ordinary over-the-counter sale of barbiturates and to prevent the unlimited refilling of prescriptions and to prevent the bootlegging of barbiturates. The 1938 Pure Food and Drug Act is not effective for the proper control of barbiturates. The Federal Pure Food and Drug Administration has maintained this for some years, and the Admin-

istration has been supported by evidence gathered by all interested medical and drug authorities and associations.

By the passage of my bill and the placing of barbiturates under the Federal Narcotics Act, barbiturates could be sold legally only on written prescriptions from physicians licensed to prescribe narcotics, and production and distribution records would have to be kept.

The amount of barbiturates manufactured and sold in the United States is tremendous, and it is increasing all the time. The production reached its peak in 1947. I do not have the figures for 1949. In 1947 it reached a peak of 900,100 pounds. In 1948 there were 679,800 pounds. The reduced production in 1948 was because less barbiturates were exported as the war torn countries resumed production.

Mr. Chairman, I was notified only yesterday of this hearing. As I said before, I have not had an opportunity to prepare material to present to your committee, as much as I should like, and I should like to present it at a later date.

The Federal Food and Drug Administration is preparing material in support of my bill which will be presented on Saturday, April 14. I believe Dr. Harris Isbell, research director of the Public Health Service hospital for drug addicts in Lexington, Ky., will testify and show pictures of barbiturate cases.

I would like to give the number of deaths, both suicides and accidental deaths. Beginning with 1945, there were 965 deaths; in 1946 there were 976 deaths; in 1947 there were 973 deaths; in 1948 there were 1,058 deaths.

This bill would provide for the coverage of barbiturates under the Federal Narcotics Act.

I would like very much to insert as part of my remarks an article from the Coronet magazine in which the United States Public Health Service states:

> Despite statements to the contrary in standard textbooks, severe symptoms develop after abrupt withdrawal of barbiturates from chronically intoxicated individuals.

That was the case of my friend.

Dr. Harris Isbell continues:

> Abstinence from barbiturates is in fact more dangerous to life than is abstinence from morphine.

So I think it should be included in legislation, with penalties for infractions of control just as severe as in the case of morphine and the other narcotics.

(The article above referred to is as follows:)

[From Coronet, February 1951]

SLEEPING PILLS: DOORWAY TO DOOM

(By William Engle)

"Jane R. Doe, 25 years old, an unemployed actress, was found dead yesterday morning in her room at the Blank Hotel. Death apparently resulted from an overdose of sleeping pills, an empty bottle of which was found on the bedside table."

Variations of this grim little item have been appearing in American papers more and more often during the last few years. One day the victim is a nonentity in a cheap rooming house; the next, he or she is a star of stage or screen, a national

figure, or a member of a prominent family. But the bottle of sleeping pills, the trademark of all such stories, remains unchanged.

Known to users by many fancy names—"Yellow Jackets," "Geronimos," "Red Devils," "Blue Heaven"—these pills belong to the chemical family of barbiturates, a coal-tar product. For the weak, the sorrow-laden, the depressed, they have opened up an inviting doorway to eternity. Once you have acquired the habit of taking them by day to quiet your nerves or by night to help you sleep, you are headed for trouble.

"I can take them or leave them alone," you may think. In fact, you may say as much to your doctor, and he, in turn, may prescribe them for you, to be resorted to occasionally to ease your nervous tension or to hasten sleep.

Perhaps you are right in believing that you can control your use of the drug. Many have managed to do so. But many others, equally confident, have progressed from habituation to addiction. Sometimes physiological factors are responsible, sometimes psychological, sometimes both.

The addict's plight is appalling; used to the drug in his system at all times, he is in one degree or another always in a state of barbiturate intoxication. When he tries to break off, he experiences a violent physical and mental upheaval. Jangled nerves, cramps, excessive sweating, and weakness are its hallmarks, and often these tortures are increased by nausea, convulsions, and delirium.

Sunny Burnett learned about this. She was a dancer of great promise who began to take barbiturates for taut nerves. For 10 years she fought the habit, going from one hospital to another for treatment. Each time, on coming out, she would turn again to the "Yellow Jackets." She was only 35 when they finally killed her.

Doctors at one time did not credit the existence of such cases as hers. Their experience with desperate prisoners of the drug had not yet become wide enough to convince them that attempts to give it up would induce shocking abstinence symptoms. It was only last year that the United States Public Health Service settled the question of addiction for good.

"Despite statements to the contrary in standard textbooks, severe symptoms develop after abrupt withdrawal of barbiturates from chronically intoxicated individuals," says Dr. Harris Isbell, research director of the Public Health Service's famous hospital for drug addicts in Lexington, Ky. "Abstinence from barbiturates," he adds, "is in fact more dangerous to life than is abstinence from morphine.

Under the influence of the drug, an addict's conduct is unpredictable. In Providence, R. I., a murder suspect admitted that during a sleeping-pill blackout he was so unbalanced that he could have killed someone without remembering it. Another prisoner, on Long Island, N. Y., admitted that he had murdered a society matron, and blamed his act on barbiturate addiction.

In Cleveland, police answered an hysterical woman's phone call to find that, under the drug's influence, her husband had smashed furniture and cut off two of his fingers. In half a dozen other cities, users of the pills have dropped off to sleep with lighted cigarettes in their hands, setting their beds ablaze.

Government agencies and medical societies have warned against barbiturates, and most States have passed laws regulating their sale. However, the extent of regulation in most of these States is thoroughly inadequate. And many thoughtless doctors, and apparently some unscrupulous ones, still are writing prescriptions too freely.

Accommodating druggists, not to mention those prompted by avarice, are daily flouting barbiturate restrictions. And in most of the great cities, there has grown up an underworld traffic in the drug.

The Department of Commerce's Chemical Division reports 679,800 pounds of barbiturates manufactured in 1949, and about the same amount last year. The amount of these drugs sold a year is enough to put everyone in the country to sleep, every every night for 12 nights. It is a quantity, authorities declare, far beyond the amount needed for medical treatment.

Used legitimately, the barbiturates are indispensable in the control of some forms of epilepsy, and as sedatives they rank among the most valuable drugs of the modern physician. If you have a good doctor, and faithfully follow his orders, you need have no fear. But beware of prescribing for yourself or increasing the dosage and shortening the time between pills.

Taken in some quantity, they induce a kind of twilight zone between waking and sleeping. Some people are tempted by this, for it frees them temporarily of the cares of the day. But this deceptive zone plays havoc with your reasoning power and releases inhibitions. Often it blots out memory of things immediately past. As a consequence, you may lose count of how many pills you have taken.

Aimee Semple McPherson, the Los Angeles evangelist, did just that, and died of an accidental overdose. So did Mrs. Ellen McAdoo Hinshaw, daughter of the late Senator William Gibbs McAdoo and granddaughter of President Woodrow Wilson. The same fate overtook Mrs. Evalyn McLean Reynolds, wife of former Senator R. R. Reynolds of North Carolina and only daughter of the late Mrs. Evalyn Walsh McLean, owner of the Hope diamond.

Like alcoholics, pill addicts sometimes indulge in a debauch for a few days or a week or two; sometimes they take the drug continuously for months or even years. Experimenting with the drug, boys and girls in various cities have combined it with beer.

"After a few 'Geronimos' with beer, you're pepped up for a couple hours," one youth told New York police. "After a while you pass out and could sleep on a bed of coals."

The effect of the pills, taken by a heavy drinker to doctor his jitters, is quite the reverse. Many a man has found that a pill or two has steadied the hand and cleared the mind. For some, however, that has been a dangerous discovery. They have gone on from an occasional pill to frequent doses, to habituation and, finally to addiction.

Addicts become increasingly liable to suicide. Depression deepened by the sleeping pills may make life unbearable. Then it may seem easy to swallow a handful of them and never awaken.

A full supply on hand can be a menace even to non addicts, for sometimes it offers a tempting way out of an intolerable situation. Lupe Velez, the Hollywood actress, had that sad experience. In a brief time of emotional distress, she took a fatal dose.

Sleeping pills have developed into a Nation-wide problem only in the last few years, although the first barbiturates were manufactured as long ago as 1903. Since then, 1,500 derivatives of barbituric acid, the base of all barbiturates, have been compounded. Among the best known to the public are Luminal, Nembutal, Allonal, and Seconal. Chemically the drugs are designated as barbital, phenobarbital, pentothal, and so forth.

One of the pills' most important and legitimate uses lies in quieting surgery patients before operations; one of the most dramatic uses of a few of them brings about a release of pent-up emotion. In this latter role they are called a 'truth serum," and have been tried out, with varying results, on suspected criminals.

Most States have laws prohibiting retail sales of barbiturates without a doctor's prescription, and stipulate that prescriptions are not renewable; therefore, in smaller towns and cities, it is hard to get them except legitimately. Yet in many larger cities, according to the United States Food and Drug Administration, the illicit supply is large.

A New York druggist received a 60-day jail sentence for selling 88,000 barbiturate capsules without prescription. In Los Angeles a young man bought 10,000 capsules, under-the-counter; before he was through with them, he had become an ambulance case. Less fortunate was a North Kansas City addict, a woman. Her death went undiscovered for 3 days; then it was found that she had been practically subsisting on more than 7,000 seconal capsules, as well as 7,000 additional nembutal ones, all of which she had obtained illegally—by mail order, no less—from a Hollywood druggist.

Many doctors have urged pharmaceutical houses to add an ingredient to the sleeping pill which, while having no effect in a normal dose, would cumulatively act as an emetic if an overdose is swallowed. They believe it would be a boon to weak-willed addicts whose fear of retching might overcome the temptation to take too many pills.

The Food and Drug Administration, although it lacks a strong law under which to check on retail sales, does have a lesser law that is proving useful in some cases. The Supreme Court in 1949 held that the Federal Government had authority over druggists receiving barbiturate supplies in interstate commerce. Last year, more than 100 cases of illegal sales reached the courts. What is needed, however, is a national law with teeth—like the Federal Narcotic Act—and an appropriation to implement it.

Such a law would work wonders, for it would allow Federal inspectors strict supervision of all retail sales. As a result, supplies would be kept largely in legal channels, accidental deaths would be fewer, suicides would be less frequent, and many a potential slave of the sinister pills would be saved from himself.

Mr. BOGGS. Have you finished your statement, Mrs. Rogers?

Mrs. ROGERS. Yes; I have concluded my statement.

Mr. BOGGS. We will be very glad to include in the record any supplemental material you might want to insert, including any statements which you may have from the Pure Food and Drug Administration and from any other groups interested in this legislation.

Mrs. ROGERS. In addition to individuals who are interested, there are a number of associations that I know also are interested.

Mr. BOGGS. Are there any questions?

Mr. HARRISON. What is the situation with respect to State laws; do you know?

Mrs. ROGERS. I have some material I would like to leave. As a result of my bill, the State of Massachusetts enacted a State control law. I think there are some 16 or 18 States today that have State control laws. I was very much interested to find, prior to my introducing this bill for Federal control, that the doctors in Massachusetts did not realize in many instances that druggists could fill and refill prescriptions. That was true, I think, all over the country. Lately, during the past year, no additional States have passed State control laws. That would be the ideal way, but I have come to the conclusion—and I am very sure some of the departments have come to the conclusion—that they cannot control this very vicious drug, very far-reaching drug, if they do not have Federal control. I believe the deaths from this drug are even more than they are from morphine and other narcotics.

Mr. BOGGS. And, of course, there is just as much addiction; is there not?

Mrs. ROGERS. Oh, there is more. The rather horrible part of this——

Mr. BOGGS. Of what do those drugs consist principally——barbiturates?

Mrs. ROGERS. And derivatives of barbiturates, of the barbiturate acids. I think there is something in my statement before the committee the last time I testified giving the derivatives of phenol barbiturates or barbiturates, so-called.

They have those tablets, and a great many mothers and fathers have spoken to me about the legislation, because, for instance, some daughters have gone to dances and, unbeknown to the daughters those derivatives in tablet form have been put into their drinks. And you have had a number of suicides here in Washington of rather prominent people and accidental deaths or suicides of people some of whom I think you know.

Mr. BOGGS. Sleeping pills, so-called—do they contain those derivatives?

Mrs. ROGERS. Yes. And most persons have felt they were harmless.

Mr. BOGGS. Have you had any recommendations from the Bureau of Narcotics on your legislation?

Mrr. ROGERS. Not recently. I think the Treasury Department at one time recommended against the passage of it—not that they were against the idea or provisions of the bill, but they were against it because they did not have the money to enforce it. My bill provides $1,000,000 for enforcement.

Mr. HARRISON. There are 14 States that have no laws on the subject at all; is not that true?

Mrs. ROGERS. Oh, yes; more than that.

Mr. HARRISON. The Treasury recommends that it be handled by the States, but there are 14 States that have no acts at all, is not that right?

Mrs. ROGERS. As I understand, last year no States enacted legislation. After I first introduced my bill, some of the States enacted legislation.

Mr. HARRISON. Do you know anything about enforcement at the State level even in those States that do have legislation on the subject? What information do you have as to enforcement by the States?

Mrs. ROGERS. I can probably secure something on that. I have none to present now. I think it is always more effective when you have Federal control of anything of that sort.

I think this may interest you. It does me. This morning I received telephone calls advising me not to go ahead with my bill.

Mr. HARRISON. Advising you not to?

Mrs. ROGERS. Yes—probably from addicts.

Mr. BOGGS. Is that right?

Mrs. ROGERS. Yes.

Mr. BOGGS. Have you had any calls like that before?

Mrs. ROGERS. Oh, yes; I have had a good many and have had a good many letters. Of course, I think some of these people—probably morphine addicts—are desperate to think it is going to be taken away from them.

Mr. HARRISON. Does this bill include or is it designed to include so-called sleeping pills?

Mrs. ROGERS. Those that have derivatives of barbiturates. There are a good many derivatives of it, and that may be additional information I can give to you later.

The rather horrible part of this, I think, is that people think it is a very innocent drug. I remember the case of a father giving phenobarbital to his child who was having great trouble with its eyesight. Of course, the father never would have given that to his child if he had realized the effects.

Mr. HARRISON. Does this bill prohibit the refilling of prescriptions?

Mrs. ROGERS. Yes; without a doctor's prescription. And, of course, that has always been the danger before. The State of Texas—and that is in my statement in the last hearing—there was one town in the State of Texas where the druggists became very much interested because so many people came in and ordered barbiturates. Of course, they had to fill the orders, and a good many people in the State or the town became addicts, and the druggists finally cleaned that up themselves. Of course, they became very much alarmed.

Mr. GRANGER. I suppose, Mrs. Rogers, you conferred with the Federal Narcotics Board and other people interested in this legislation in drafting this bill.

Mrs. ROGERS. Yes. I have forgotten just who it was who drafted the bill for me originally. I think I worked with the Food and Drug people and the Narcotics people. It follows the line of the narcotics law.

Mr. GRANGER. And it is your judgment that this bill, so far as control of the drugs is concerned as well as the penalties, adequately covers the situation?

Mrs. ROGERS. Yes. And that is the general feeling of the experts with whom I have talked—that that would cure very much of the trouble.

I think it is rather useless to pass bills that are not strong enough to prevent the use of these perfectly horrible drugs. This man who asked me to introduce this legislation expected to die, and he is now back in business and is quite a power in the country.

Mr. GRANGER. Mr. Chairman, I think if the gentlewoman (Mrs. Rogers) has any more calls or threats of any kind, it should be made known to the chairman, and we can follow through on it.

Mr. BOGGS. Yes; I wish you would let us know.

Mrs. ROGERS. Well, I might keep you busy for a while. I have great pity for these people, because their wills become weakened and they have a very bitter feeling.

Mr. BOGGS. Thank you very much.

Mrs. ROGERS. Thank you very much for your gracious hearing.

Mr. BOGGS. You may file any additional information you would like to supply.

(The following was submitted for the record by Mrs. Rogers:)

STATEMENT OF HON. EDITH NOURSE ROGERS

Mr. Chairman and members of the committee: I earnestly request the enactment of my bill H. R. 348 to provide for the coverage of barbiturates under the Federal narcotic laws. For some years I have been working with the Federal Food and Drug Administration and the Federal Bureau of Narcotics for the proper and effective control of barbiturates commonly known as sleeping pills.

The number of deaths from barbiturates is staggering and the number is increasing in large measure each year.

In 1945 there were 795 deaths; in 1946 there were 976 deaths; in 1947 there were 973 deaths; in 1948 there were 1,058 deaths; in 1949 the information is not yet available.

My bill H. R. 348 is supported by the Federal Food and Drug Administration. The legislation is necessary to prevent the ordinary over-the-counter sale of barbiturates, to prevent the unlimited refilling of prescriptions and to prevent bootlegging of barbiturates. The 1938 Pure Food and Drug Act is not effective for the proper control of barbiturates. The Federal Pure Food and Drug Administration has maintained this for some years and the Administration has been supported by evidence gathered by all the interested drug and medical authorities and associations.

By the passage of my bill, and the placing of barbiturates under the Federal Narcotics Act, barbiturates could be sold legally only on written prescription from a physician licensed to prescribe narcotics, and production and distribution records would have to be kept.

The amount of barbiturates manufactured and sold in the United States is tremendous.

The production reached its peak in 1947, 900,100 pounds; 1948, 679,800 pounds.

The reduced production in 1948 was because less barbiturates were exported as the war-torn countries had resumed production.

Mr. Chairman, I was notified only yesterday of this hearing, therefore I have not had an opportunity to prepare material to present to your committee and I should like to present it at a later date. The Federal Food and Drug Administration is preparing material in support of my bill which will be presented Saturday, April 14. I believe Dr. Harris Isbell, research director of the Public Health Service's hospital for drug addicts in Lexington, Ky., will testify and show pictures of barbiturate cases.

I request that material which I submitted to your committee in May 1947 be made a part of this record and of this hearing. This material is in great detail and supports the necessity of the passage of my bill.

[H. R. 348, 82d Cong., 1st sess.]

A BILL To provide for the coverage of barbiturates under the Federal narcotic laws

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 3228 of the Internal Revenue Code (containing definitions of terms used for purposes of certain provisions relating to narcotics) is amended by adding the following new subsection (g) at the end thereof:

"(g) BARBITURATE.—The word 'barbiturate' as used in this part and subchapter A of chapter 23 shall mean any of the salts of barbituric acid (malonylurea), any derivative of such acid or of any of its salts, or any preparation or mixture of any such salt or derivative."

SEC. 2. Section 2550 (a) of the Internal Revenue Code (tax on certain substances) is amended by inserting after the phrase "levied, assessed, collected, and paid upon opium, isonipecaine, coca leaves, opiate," the word "barbiturate,".

SEC. 3. Paragraphs 5 and 6 of section 2557 (b) (penalties for violations of certain provisions relating to narcotics) are hereby amended by inserting in each immediately following the words "or conspiring to sell, import, or export, opium, coca leaves, cocaine, isonipecaine, opiate," the word "barbiturate,"; by deleting in each the word "or" from the phrase "preparation of opium, coca leaves, cocaine, isonipecaine, or opiate," and by inserting in each immediately following such phrase the words "or barbiturate,".

SEC. 4. The first sentence of section 2558 (b) of the Internal Revenue Code (providing for confiscation and disposal of seized narcotics) is hereby amended by inserting immediately after the words "All opium, coca leaves, isonipecaine, opiates," the word "barbiturates,"; and by deleting the word "and" before the word "opiates" in the phrase "all salts, derivatives, and preparations of opium, coca leaves, isonipecaine, and opiates," and inserting immediately following such phrase the words "and barbiturates,".

SEC. 5. Section 2565 of the Internal Revenue Code (cross-reference to definitions) is hereby amended by adding at the end thereof the following:

"BARBITURATE.—
"Subsection (g)."

SEC. 6. The first paragraph of section 3220 of the Internal Revenue Code (occupational taxes) is hereby amended by striking out the word "or" in the phrase "gives away opium, coca leaves, isonipecaine, or opiate," and inserting immediately following such phrase the words "or barbiturate,".

SEC. 7. Section 1 (a) of the Narcotic Drugs Import and Export Act, as amended (U. S. C., 1940 edition, title 21, sec. 171), is amended by inserting after the phrase "The term 'narcotic drug' means opium, coca leaves, cocaine, isonipecaine, opiate," the word "barbituate,"; by deleting the word "or" from the words "preparation of opium, coca leaves, cocaine, isonipecaine, or opiate," and inserting the words ", or barbiturrate"; and by striking out the period at the end thereof and inserting the following: "; and the word 'barbiturate' as used herein shall have the same meaning as defined in section 3228 (g) of the Internal Revenue Code."

SEC. 8. Sections 1 and 2 of the Act of August 12, 1937, as amended, entitled "An Act to increase the punishment of second, third, and subsequent offenders against the narcotic laws" (ch. 598, 50 Stat. 627; U. S. C., 1940 edition, title 21, secs. 200 and 200a), are hereby amended by inserting in each immediately following the words "or conspiring to sell, import, or export, opium, coca leaves, cocaine, isonipecaine, opiate," the word "barbiturate,"; by deleting in each the word "or" from the phrase "preparation of opium, coca leaves, cocaine, isonipecaine, or opiate," and by inserting in each immediately following such phrase the words "or barbiturate,"; and by adding a new sentence at the end of each section to read as follows: "The word 'barbiturate' as used in this section shall have the same meaning as defined in section 3228 (g) of the Internal Revenue Code."

SEC. 9. The second paragraph of section 584 of the Tariff Act of 1930, as amended (U. S. C., 1940 edition, title 19, sec. 1584), is hereby amended by deleting in the first sentence the word "or" from the phrase "If any of such merchandise so found consists of heroin, morphine, cocaine, isonipecaine, or opiate," and by inserting immediately following such phrase the words "or barbiturate,"; and by inserting in the last sentence of the paragraph immediately following the word "opiate," the word "barbiturate," and inserting immediately following the reference ' sections 3228 (e), 3228 (f)," the following: "3228 (g),".

SEC. 10. There is hereby authorized to be appropriated the sum of $1,000,000 for carrying out the purposes of this Act.

(The testimony and exhibits submitted by Mrs. Rogers on May 15, 1947, are as follows:)

STATEMENT OF HON. EDITH NOURSE ROGERS, A REPRESENTATIVE IN CONGRESSS FROM THE STATE OF MASSACHUSETTS

Mrs. ROGERS. Mr. Chairman, I will take up H. R. 588 first. It is concerned with the regulation of phenolbarbiturate and its derivatives.

I am very much alarmed over the use of these drugs. Here in Washington, two of our women died from an overdose of these sleeping powders.

Two friends of mine told me that every time their babies became restless, they gave them phenolbarbiturates. They do not realize it is a cumulative drug. It not only kills people, but it gives them a dual personality.

I was asked to introduce this bill by a very distinguished man in the United States who had become an addict to phenolbarbiturate. In his case, he was under a doctor's care and took the phenolbarbiturate as the result of the doctor's prescription.

In many cases, such as high blood pressure and other cases, a moderate use of phenolbarbiturate is helpful, but it is a very easy way of dying and a good many suicides take place as a result of the use of that drug.

For many months past I have worked and fought on the floor of Congress and in the public press against the unrestricted sale and dispensing of barbiturate drugs. The use of these habit-forming drugs which has caused the death and suicide of great numbers of persons is increasing in such tremendous rates that even the drug merchants who are permitted to sell the drugs at great profit without any restrictions are greatly alarmed. They have called upon the Federal departments for help in regulating the traffic and have spent long hours in conference seeking relief and regulation. The matter undoubtedly should be controlled by proper State laws, but we all know the difficulties and length of time required in securing legislation in 48 States. Also it is undoubtedly an interstate traffic in many instances coming directly under the Federal Government.

The American Pharmaceutical Association, according to a survey made recently, finds that 34 States have laws regulating the restricting the sale and possession of barbiturates.

The Federal Government should cooperate as many matters relate to interstate control.

(The following matter was supplied for the record by Representative Rogers of Massachusetts:)

FEDERAL SECURITY AGENCY,
FOOD AND DRUG ADMINISTRATION,
Washington 25, D. C., May 16, 1947.

Hon. EDITH NOURSE ROGERS,
House of Representatives, Washington, D. C.

DEAR MRS. ROGERS: In response to the request telephoned from your office on May 15, we are summarizing the investigations which we have made of the sale of barbiturates.

The Food, Drug, and Cosmetic Act, which became a law in 1938, defines a drug as misbranded (sec. 502 (f) (1)) unless its labeling bears adequate directions for use. Another section (502 (j)), however, provides that a drug is illegal for interstate distribution "if it is dangerous to health when used in the dosage, or with the frequency or duration prescribed, recommended, or suggested in the labeling thereof." Section 502 (f) authorizes drugs to be exempted from bearing directions for use if they comply with the regulations authorizing such exemptions.

Since it is the consensus of medical opinion that the barbiturate drugs are not safe for us by the lay public without medical supervision, the manufacturers of these preparations have taken advantage of the exemption. The labels of these drugs, therefore, do not bear directions for use and do not state the conditions for which the drug is to be used. In place thereof they bear the legend, "Caution: To be dispensed only by or on the prescription of a physician," or other comparable language authorized by the exempting regulation.

Section 301 (k) of the act prescribes the doing of any act with respect to a drug if such act is done while such article is held for sale after shipment in interstate commerce and results in such article being misbranded.

The investigations to which we will refer were made, therefore, to determine whether or not retail pharmacists and others were causing barbiturate drugs which bore the prescription legend to become misbranded by selling them without prescription.

A typical case was that directed against H. Otis Fadal, who operated Fadal's Square Drug Store, of Waco, Tex. This case was terminated on March 1, 1945, by a fine of $600 and a 6 months' jail sentence. The jail sentence was suspended and the defendant placed on probation for 2 years.

The investigation at Waco was begun because of a complaint made to us by the juvenile authorities. Two kindergarten children from the same family were discovered by their teacher to be stuporous in class. She found that they were taking medicine. She obtained a sample which upon analysis was found to be a barbiturate. Their father, who had at one time been a dependable, semiskilled laborer, had become addicted to barbiturates, and as a result had lost his job and become useless to himself and to his family. Later the parents were divorced and the children were placed in the custody of juvenile authorities. When our inspectors traced the father's source of supply it developed that some 60 addicts were regularly purchasing barbiturates without prescription from Fadal's Drug Store, which derived large illicit profit therefrom.

As a result of this case this drug store ceased selling barbiturates without prescription, and a check with the local chief of police showed that in a 3 months' period thereafter only one barbiturate arrest had been made, and it appeared that the addiction problem in this community had been solved at least temporarily.

A substantial number of similar cases have been terminated in the Federal courts, and our investigations have shown that a serious public health problem exists in many communities as a result of the extensive sale of barbiturates.

On May 25, 1945, the operator of the Lewis Drug Store, of Jackson, Ohio, was fined a total of $1,500 in the Federal court at Columbus for similar violations.

On March 12, 1946, the operators of the Cottage Pharmacy, of Rochester, Mass., pled guilty to the illegal sale of barbiturates and were fined a total of $400.

The owner of the Peninsula Drug Store, of San Francisco, Calif., was found guilty of similar violations and was fined $1,200. This case, we understand, will be appealed.

The operators of Glina's Drug Store, Ramona Drug Co., and Courtesy Drug Co., all of Phoenix, Ariz., were each fined $200 in May 1946 upon pleas of guilty to the illegal sale of barbiturates.

The operators of the Southeast Pharmacy, of Washington, D. C., plead guilty on April 22, 1946, to the illegal sale of pentobarbital sodium, and the court imposed a fine of $400.

These cases illustrate the fact that the indiscriminate sale of barbiturates is not confined to any one locality in the United States. As a matter of fact we have investigated many other illegal sales and a number of cases have either been terminated, filed with the courts, or are in various stages of investigation.

The information which we acquired leaves no doubt that the problems growing out of the unwise and unsupervised use of barbiturates is progressively becoming more serious. Tragic incidents of broken homes, destroyed health, suicides, and accidental deaths are commonly encountered in these investigations.

The most recently terminated case in a district Federal court involved the Cohen Drug Co. of Charleston, W. Va. This was begun when a local man died in a telephone booth after an overdose of barbiturates. Another death which was discovered in the same community resulted in the acquisition by our inspectors of the package from which the lethal medicine had been taken. The inspector presented the empty box at the drug store where the medicine had originally been obtained and was unhesitatingly given a refill of the prescription.

An investigation disclosed that this drug store was ignoring the requirements of the Federal Food, Drug, and Cosmetic Act with respect to barbiturates and a number of other dangerous drugs. Upon a plea of guilty the court fined the corporation $1,800 on May 5, 1947.

The barbiturate problem may be divided into three categories: First, is the sale of the drugs without prescription; second, is the concealed under-cover operations of bootleggers who operate extensively in the more disreputable sections of various cities; and third, the promiscuous refilling of prescriptions.

In one case an original prescription for a very small quantity of a barbiturate had been refilled until the patient had received many times the original prescription and was eventually confined to a mental institution.

It has become apparent that the Federal Food, Drug, and Cosmetic Act is not adequate to effectively control the abuses incident to the improper distribution and use of barbiturates. The charges which we must bring are of a technical nature and rest upon proof of interstate shipment of the particular medicine involved in the illegal sales. This becomes very complex in many instances and requires the presence at trials of representatives of the original manufacturer, branch houses, wholesale drug houses, and others simply to establish Federal jurisdiction. While this cumbersome process has been successful in the case of a

number of prosecutions we have been unable to prove interstate shipment in other instances.

The Federal Food, Drug, and Cosmetic Act contains no effective bar against the repetitious refilling of prescriptions. Even if our statute was an adequate instrument to regulate the barbiturate traffic it is obvious that the 230 inspectors employed by this Administration to enforce the act with respect to all interstate traffic of foods, drugs, and cosmetics generally could not undertake the additional task of policing all of the potential outlets of barbiturates. We should, however, make it clear that our surveys have shown conclusively that a very large percentage of retail pharmacists in this country will not sell barbiturates without a prescription.

A development has occurred within the past week which throws doubt upon our ability to exercise even the limited control to which we have previously referred over the improper sale of barbiturates. The decision of the lower court in the case entitled "*U. S.* v. *Jordan James Sullivan*, trading as Sullivans' Pharmacy" is attached hereto. The lower court in this case upheld the legality of the charges upon which our enforcement program was based. The case was reviewed on May 13 by the Fifth Circuit Court of Appeals in New Orleans. The decision was against the Government. We have not as yet received a copy of the decision but we are telegraphically advised that the court held that the jurisdiction of the Federal Food, Drug, and Cosmetic Act does not extend to the circumstances which usually prevail in the improper sale of barbiturates.

As you have requested we are loaning you our file copy of the October 1945 issue of the quarterly bulletin of Food and Drug officials which contains Mr. Tritcher's address on page 127.

Very truly yours,

GEO. P. LARRICK,
Assistant Commissioner of Food and Drugs.

[Reprinted from the Journal of the American Pharmaceutical Association, Scientific Edition, Vol. XXXV, No. 7, July 1946]

A REVIEW OF THE PRESENT STATUS OF BARBITURATE REGULATION [1]

By Robert P. Fischelis [2]

INTRODUCTION

The committee on legislation of the American Pharmaceutical Association has inaugurated a program dealing with the problems arising from the misuse of barbiturates. As preliminary steps in the development of this program an opinion survery has been conducted among state pharmacy officials and practing pharmacists on proper methods of control, a detailed study of the existing laws dealing with this subject has been made, and a Conference on Barbiturates [3] was held at the A. Ph. A. Headquarters in Washington on October 12, 1945. This meeting was attended by representatives of the American Medical Association, American Dental Association, American Hospital Association, United States Public Health Service, United States Bureau of Narcotics, and the United States Food and Drug Administration, together with state law enforcement officials and representatives of retail, wholesale, and manufacturing groups in pharmacy.

This meeting was characterized by free and detailed discussion of the various aspects of the problem and resulted in a crystallization of the opinions and experiences of the professions and law-enforcement officials which will be of great value to the Committee on Legislation in planning the course of action to be taken. It was generally agreed that any proposed legislation must go beyond the control of "over the counter" sales of these dangerous drugs by pharmacists and control the dispensing physicians, restrict the refilling of prescriptions, prohibit distribution to illegitimate channels by irresponsible manufacturers and wholesalers and make the unlawful possession of these drugs a criminal offense. It was further agreed that in addition to a legislative program it will be necessary to follow this with an educational program which will lead to the education of legislators on the need for adequate enforcement funds and procedures;

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[1] Presented in summary to the Conference on the Regulation of Use and Distribution of Barbiturates called by the American Pharmaceutical Association at Washington, D. C., October 12, 1945. Elaboration of the original article to include the details of each state law dealing with barbiturates was completed by Dr. Joseph B. Burt, on leave from the University of Nebraska, under a grant from the George and Lillian Judisch Fund and the A. Ph. A. General Expense Budget.

[2] Secretary, American Pharmaceutical Association.

[3] For a report on the meeting, see This Journal, Practical Pharmacy Edition, 7, 356–58 (1945).

education of pharmacists on the potential danger of these drugs and the need for compliance with reasonable regulation; education of physicians on the need for conservative prescribing of barbiturates; and education of laymen on the risks involved in the use of these drugs without proper medical supervision.

The report which follows is a summary of the present laws dealing with the regulation and distribution of barbiturates and other hypnotic drugs and represents a part of the study which is being made under the auspices of the Committee on Legislation. A somewhat similar survey,[4] prepared by the Bureau of Legal Medicine and Legislation of the American Medical Association, was published in 1940. Although this summary was of value, particularly in checking with information obtained from the laws themselves, it was not always in agreement with our findings and for that reason we have based our report upon information obtained directly from the laws rather then depending upon this or other summaries which were available.

EXISTING LAWS

As of October 1, 1945, thirty-five states, possessions or districts had laws in force which either directly or indirectly control, or could be utilized as a basis for control of the distribution of barbiturates alone or of barbiturates and other hypnotic drugs. The District of Columbia and six states have also issued regulations which are supplementary to existing laws. In addition, four states which do not have barbiturate or similar laws have issued through appropriate agencies of their state governments regulations which exercise control over the retail distribution of these drugs.

Since two possessions (Alaska and Puerto Rico) and the District of Columbia are included in the total given above, 36 states (32 by statute, 4 by regulation) are accounted for. This leaves 12 states that have no laws or regulations pertaining to this subject. These are as follows: Arizona, Idaho, Illinois, Iowa, Kentucky, Massachusetts, New Mexico, Ohio, South Dakota, Texas, Wisconsin, Wyoming.

Although city laws and ordnances have in several instances antedated state laws or regulations on barbiturates, the first state law dealing specifically with barbiturates was that of California, enacted in 1929. This law has since been repealed and replaced by a new law which was approved July 10, 1945. A list of the states, possessions, or districts having laws either of a special or general type, arranged in the order of their adoption, is shown in Table I.

TABLE I.—*Laws regulating the distribution of barbiturates and other hypnotic drugs (arranged in order of their adoption)*

I. Special Laws Covering Barbiturates with or without Other Hypnotic Drugs:
- 1929—California
- 1930—Virginia
- 1933—New Jersey, Maine, Oklahoma [1]
- 1935—Alabama, Arkansas, Colorado, Maryland, Nebraska, Oregon, Pennsylvania, West Virginia
- 1937—Rhode Island, South Carolina
- 1939—Delaware, Georgia, Minnesota, Tennessee, Washington
- 1940—Mississippi
- 1941—Alaska, Puerto Rico
- 1943—Michigan
- 1945—New York

II. General Laws:
- 1921—New Hampshire [2]
- 1931—North Carolina
- 1936—Louisiana
- 1938—District of Columbia
- 1939—Connecticut, Florida, Indiana, Nevada, Vermont [3]
- 1943—Missouri [4]

[1] Law of 1933 has been repealed and superseded by the law of 1945.

[2] A general pharmacy law limiting the sale of all potent drugs, defined as those having an average adult dose of less than 60 gr., to registered pharmacists and assistant pharmacists.

[3] The State Narcotic Law of Vermont was amended in 1939 to include barbiturates.

[4] This is the State Uniform Food, Drug and Cosmetic Act. Although no direct reference is made to barbiturates, the law prohibits the sale, except on prescription, of drugs which are "dangerous to health." The absence of a regulation by the State Board of Health declaring barbiturates "dangerous" indicates that the law is not being used for this purpose, although it appears that authority to promulgate such a regulation is granted to this agency by the law.

[4] "Regulation of the Sale of Barbiturates by Statutes," *J. Am. Med. Assoc.*, 114, 2029–36 (1940).

TYPES OF LAWS

The laws of the 32 States, Alaska, Puerto Rico, and the District of Columbia, follow no regular pattern, either with regard to general structure or the drugs which are covered. Twenty-five laws are specific in nature, covering barbiturates alone or either barbiturates and other hypnotic drugs or barbiturates and other "dangerous" drugs, regardless of therapeutic action. Only eight laws are limited to the control of barbiturates exclusively. Ten additional special laws cover only barbiturates and other hypnotic or somnifacient drugs. The remaining seven special laws are distributed among five different classifications, based upon the drugs which are covered.

TABLE II.—*Types of laws*

I. States having special laws covering barbiturates (either including or excluding other hypnotics and/or other drugs):

1. Alaska
2. Alabama
3. Arkansas
4. California
5. Colorado [1]
6. Delaware
7. Georgia
8. Maine
9. Maryland
10. Michigan [1]
11. Minnesota
12. Mississippi
13. Nebraska
14. New Jersey [1]
15. New York
16. Oklahoma
17. Oregon
18. Puerto Rico
19. Pennsylvania
20. Rhode Island
21. South Carolina
22. Tennessee
23. Virginia
24. Washington
25. West Virginia

A. Laws Covering Barbiturates Only:

1. Arkansas
2. Maine
3. Minnesota
4. Mississippi
5. Oregon
6. South Carolina
7. Tennessee
8. West Virginia [2]

B. Laws Covering Barbiturates and Other Hypnotic or Somnifacient Drugs Only:

1. Alabama
2. Colorado [1]
3. Delaware
4. Maryland
5. Michigan [1]
6. Nebraska
7. New Jersey [1]
8. New York
9. Oklahoma
10. Rhode Island

C. Laws Covering Barbiturates and Sulfa Drugs Only:

1. Georgia
2. Puerto Rico
3. Washington

D. Laws Covering Barbiturates, Sulfa Drugs, and Harmones:

1. Virginia

E. Laws Covering Barbiturates, Other Hypnotics (Choral Hydrate and Sulfa Drugs:

2. Alaska

F. Laws Covering Barbiturates, Other Hypnotic, Analgesic and Body Weight Reducing Drugs:

1. Pennsylvania [1]

G. Laws Covering Barbiturates and Other Hypnotics, Aminopyrine and Derivatives, Amphetamine and Desoxyephedrine, Diethylstilbestrol, Oils of Rue, Croton, and Tansy, Sulfa Drugs and Thyroid:

1. California

[1] Regulations have also been issued.
[2] West Virginia has separate subsections of its Narcotic Drug Act for barbitures and for chloral hydrate.

II. General Laws:
1. Connecticut
2. District of Columbia [1]
3. Florida
4. Indiana [1]
5. Louisiana [1]
6. Missouri
7. Nevada
8. New Hampshire
9. North Carolina
10. Vermont

A. "Uniform" Food, Drugs and Cosmetic Laws:
1. With a Specific Clause Mentioning Barbiturates and Other Drugs:
1. Connecticut
2. Florida
3. Nevada
4. North Carolina

2. Without a Specific Clause Mentioning Barbiturates and Other Drugs:
1. District of Columbia [1]
2. Indiana [1]
3. Missouri

B. State Food, Drug and Cosmetic Laws Enacted Prior to 1938:
1. Louisiana [1]

C. State Narcotic Laws (as Amended to Include Barbiturates and Other Drugs):
1. Vermont

D. General Law Covering Potent Drugs:
1. New Hampshire

III. States Having Regulations Only:
1. Kansas
2. Montana
3. North Dakota
4. Utah

Ten laws are of a general type such as the Uniform State Food, Drug and Cosmetic Laws, or the State Narcotic Law.

A classification of the thirty-five laws, according to type, is shown in Table II.

COVERAGE OF THE LAWS

As indicated above, the lists of drugs covered by the individual laws show such wide divergence that their classification is extremely difficult. It is only by using rather broad classifications with reference to groups of drugs that a systematic arrangement can be devised, and even this requires 19 separate classifications and fails to include the specific drugs included in the laws or regulations of two of the states and the District of Columbia.

The classification follows:

1. Barbiturates only:
   Arkansas
   Maine
   Oregon
   South Carolina
   Tennessee
2. Barbiturates and chloral hydrate and derivatives: [2]
   West Virginia [2]
3. Barbiturates, chloral hydrate, and paraldehyde:
   Michigan
4. Barbital, trional, sulfonal, tetronal, paraldehyde, chloral, chloral hydrate, and derivatives:
   Alabama
5. Barbital, trional, sulfonal, chloral, chloral hydrate, carbromal, and derivatives:
   Colorado
6. Barbital, trional, sulfonal, tetronal, chloral, chloral hydrate, chlorbutanol, and derivatives:
   Delaware
   Maryland
   Rhode Island
7. Barbital, trional, sulfonal, tetronal, carbromal, paraldehyde, chloral, chloral hydrate, chlorobutanol, and derivatives:
   Nebraska
   New Jersey
   New York

[1] Regulations have also been issued.
[2] Contained in separate subsections of the State Uniform Narcotic Act.

8. Barbiturates, Isonipecaine, and benzedrine:
   Oklahoma
9. Barbiturates and sulfa drugs:
   Georgia
   Puerto Rico
   Washington
10. Barbiturates, chloral hydrate and derivatives and sulfa drugs:
   Alaska
   Minnesota
   Mississippi
11. Barbiturates, sulfa drugs and hormones:
   Virginia
12. Aminopyrine, barbituric acid, cinchophen, denitrophenol, sulfanilamide and derivatives:
   Connecticut [4]
   Nevada [4]
   North Carolina [4]
13. Aminopyrine, barbituric acid, cinchophen, dinitrophenol, penicillin, sulfanilamide and derivatives:
   Florida [4]
14. Barbiturates, trional, sulfonal, tetronal, chloral, chloral hydrate, cinchophen (atophan), atoquinol, dinitrophenol, dinitrocresol, amphetamine (benzedrine) and thyroid:
   Pennsylvania
15. Narcotic drugs, barbiturates, cinchophen and sulfa drugs:
   Vermont [5]
16. Any drug dangerous to health when used in the dosage, or with the frequence or duration prescribed, recommended or suggested in the labeling thereof:
   Missouri [6]
17. Nonspecific drug list (all substances having an average adult dose of 60 gr. or minims or less):
   New Hampshire
18. Special list established by regulation:
   Indiana [6]
   Louisiana
   District of Columbia [6]
19. Any hypnotic drug; aminopyrine and derivatives; amphetamine, desoxyephedrine and derivatives; cinchophen, neocinchophen and derivatives; diethylstilbestrol, or compounds or mixtures thereof; ergot, cotton root and derivatives; oils of croton, rue or savin and derivatives; sulfanilamide and derivatives:
   California

LEGAL REQUIREMENTS CONCERNING THE RETAIL SALE OF BARBITURATES AND OTHER HYPNOTIC DRUGS

All but one of the laws require that sales at retail must be made on prescription only. The exception is in the case of the law of New Hampshire, which is not a specific barbiturate law, but a general potent drug law which limits the sale of all drugs having an average adult dose of 60 gr. or minims or less to registered pharmacists or assistant pharmacists without requiring that all sales of such drugs must be made on prescriptions. Thirteen laws require that sales be made by pharmacists, two require that sales be made by registered drug stores only, one requires that sales be made by retail pharmacies only, and one specifies that the dealer must have a valid U. S. Narcotic license. A tabulation of the provisions of the laws is shown in Table III.

RENEWAL OF PRESCRIPTIONS

Wide variation is found in the provisions of the laws and regulations with reference to the refilling of prescriptions. In only five laws is the refilling of prescriptions prohibited unconditionally. Fifteen laws make no reference to this

[4] "Uniform" Food, Drug and Cosmetic Law containing a special clause mentioning barbiturates and other drugs.
[5] State Narcotic Law as amended to include barbiturates and other drugs.
[6] "Uniform" Food, Drug and Cosmetic Law without a special clause mentioning barbiturates and other drugs.

subject, and it is to be presumed that renewal is permitted. A tabulation of the provisions follows:

1. May not be refilled:
   - Arkansas
   - Colorado
   - Louisiana [6]
   - Michigan [7]
   - Mississippi
2. All prescriptions except those for phenobarbital may not be refilled:
   - Oregon
3. May be refilled on the written order of the prescriber:
   - Nebraska
   - Washington
4. May be refilled on the oral or written order of the prescriber:
   - Connecticut
   - Vermont
5. May not be refilled unless the prescriber endorses on the face of the prescription the specific number of times it may be renewed:
   - Pennsylvania [8]
6. May not be refilled except on written or verbal order of the prescriber and then only provided the date of such renewal is recorded on the original prescription:
   - Minnesota
7. May be refilled upon authorization of the prescriber:
   - Alaska [9]
   - Virginia [10]

TABLE III.—*Legal requirements concerning the retail sale of barbiturates and other hypnotic drugs*

Limited to sales on prescriptions		May be sold by—		Sold by retail pharmacy only	Dealer must have a valid United States narcotic license
		(Registered) pharmacist only	Sold by registered drug stores only		
Alabama	Nebraska [2]	Colorado [2]	Oklahoma	Arkansas	Mississippi
Alaska [1]	Nevada	Maryland	Rhode Island [4]		
Arkansas	New Jersey [2]	Michigan			
California	New York	Minnesota			
Colorado [1]	North Carolina	Nebraska [2]			
Connecticut	Oklahoma	New Hampshire [5]			
Delaware	Oregon	Pennsylvania			
Florida	Pennsylvania	Puerto Rico			
Georgia [3]	Puerto Rico	New Jersey [2]			
Indiana	Rhode Island [4]	New York			
Louisiana	South Carolina	Rhode Island [4]			
Maine	Tennessee	Tennessee			
Maryland	Vermont	West Virginia			
Michigan	Virginia				
Minnesota	Washington				
Mississippi	West Virginia				
Missouri	District of Columbia				

[1] Except that a licensed druggist may sell not more than 10 gr. of barbiturates without a prescription if the sale is recorded in the Poison Register.

[2] Must be compounded or dispensed by a registered pharmacist or under his immediate personal supervision.

[3] Except prescriptions containing not more than 4 grains of the specified drugs to the avoirdupois or fluid ounce.

[4] Prescriptions must be compounded or dispensed in a licensed pharmacy by a registered pharmacist or a registered assistant pharmacist, under the supervision of a registered pharmacist.

[5] Sale of all potent drugs is limited to registered pharmacists and assistant pharmacists. The only law that does not require prescriptions.

[7] Except prescriptions which are not designated otherwise by the prescriber may be refilled provided the barbituric acid and/or its derivatives are not the principal medicinal ingredients.

[8] By regulation.

[9] Refilling of prescriptions for barbiturates is not mentioned in the law. Authorization from the prescriber is required for renewal of prescriptions for chloral hydrate and sulfa drugs.

[10] Prescriptions containing derivatives of barbituric acid for persons suffering from chronic afflictions or diseases, and prescriptions for hormones may be refilled upon written authorization on the face of the prescription a definite number of times, as indicated, or indefinitely, if so specified. Prescriptions containing in a mixture or a compound a derivative of barbituric acid which does not constitute the principal constituent may be refilled (without permission) unless the prescriber indicates otherwise.

8. May be refilled but records must be kept:
   Delaware
   Florida [11]
9. All prescriptions except those containing less than two grains of phenobarbital per ounce and those containing diphenylhydantoin, aminopyrine, and thyroid and derivatives may not be refilled:
   California
10. May be refilled two times provided authorization is obtained from the prescriber:
   District of Columbia [12]
11. May be refilled if prescriber does not state otherwise on the prescription:
   New Jersey [13]
   New York [14]
12. Renewal of prescriptions not mentioned in laws (presumably permitted):

Alabama	North Carolina
Georgia	Oklahoma
Indiana	Puerto Rico
Maine	Rhode Island
Maryland	South Carolina
Missouri	Tennessee
Nevada	West Virginia
New Hampshire	

REGULATION OF SALES BY MANUFACTURERS, JOBBERS, AND WHOLESALE DEALERS TO PHARMACISTS, PHYSICIANS, DENTISTS, VETERINARIANS, AND OTHER QUALIFIED PURCHASERS

Of the laws of the thirty-five states, district, or possessions now in force which regulate the distribution of barbiturates and/or hypnotic drugs, only those of six states (Arkansas, California, Colorado, Michigan, Nebraska, and New Jersey) contain, either in the law itself or in regulations supplementary thereto, any legal requirements affecting the sale at the wholesale level of these products. This relatively small number is explained in part by the fact that a majority of these laws are so worded as to limit their application to the "sale at retail or dispensing" of these drugs, with the result that wholesale transactions are not mentioned. In many other cases, all transactions except those at retail on prescription are prohibited, but a special clause is incorporated granting exemption to all legitimate sales at the wholesale level.

The legal requirements of the six laws which contain provisions regulating wholesale transactions are summarized below.

Arkansas.—All purchases of barbituric acid and derivatives and compounds thereof under any chemical or copyrighted name shall be ordered by the retail pharmacy or hospital or dispensing physician, dentist, or veterinarian from the wholesale drug house, chemical house, or manufacturer by written order, which order shall be made in triplicate, one copy to go to the wholesale drug house, chemical house, or manufacturer, one copy to be sent to the Food and Drug Division of the State Board of Health, and the original or first copy to be retained by the pharmacy or dispensing physician, dentist, or veterinarian placing the order. These orders shall be preserved by the wholesale drug house, chemical house, or the manufacturer and by the pharmacy or hospital at least two years, subject to inspection of any officer of the State Board of Health.

California.—The provisions of the law do not apply to the sale of any dangerous drug by a manufacturer or wholesaler or pharmacy to each other or to a physician, dentist, chiropodist, or veterinarian or to a laboratory under sales and purchase records that give currently the date, the names, and addresses of the supplier and the buyer, the drug, and the quantity. All records of manufacture and of sale or disposition of dangerous drugs shall be at all times, during business hours, open to inspection by authorized officers of the law, and shall be preserved at least three years.

Colorado.—Regulation 7 of the State Board of Pharmacy of Colorado provides the following: Sales of barbital and/or other hypnotic and somnifacient drugs by manufacturers to wholesalers, retailers, or medical practitioners; by wholesalers to retailers or to medical practitioners, and by one retailer to another,

[11] Provided original is not designated by the prescriber as not to be refilled.
[12] By regulation.
[13] By regulation. Constant or frequent renewals, except for patients afflicted with epilepsy or other nervous diseases, are regarded as a "violation of the spirit of the law."
[14] No copies of prescriptions may be issued.

subject, and it is to be presumed that renewal is permitted. A tabulation of the provisions follows:

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		(Registered) pharmacist only	Sold by registered drug stores only		
Alabama Alaska [1] Arkansas California Colorado [1] Connecticut Delaware Florida Georgia [3] Indiana Louisiana Maine Maryland Michigan Minnesota Mississippi Missouri	Nebraska [2] Nevada New Jersey [2] New York North Carolina Oklahoma Oregon Pennsylvania Puerto Rico Rhode Island [4] South Carolina Tennessee Vermont Virginia Washington West Virginia District of Columbia	Colorado [2] Maryland Michigan Minnesota Nebraska [2] New Hampshire [5] Pennsylvania Puerto Rico New Jersey [2] New York Rhode Island [4] Tennessee West Virginia	Oklahoma Rhode Island [4]	Arkansas	Mississippi

[1] Except that a licensed druggist may sell not more than 10 gr. of barbiturates without a prescription if the sale is recorded in the Poison Register.

[2] Must be compounded or dispensed by a registered pharmacist or under his immediate personal supervision.

[3] Except prescriptions containing not more than 4 grains of the specified drugs to the avoirdupois or fluid ounce.

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8. May be refilled but records must be kept:
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   Florida [11]
9. All prescriptions except those containing less than two grains of phenobarbital per ounce and those containing diphenylhydantoin, aminopyrine, and thyroid and derivatives may not be refilled:
   California
10. May be refilled two times provided authorization is obtained from the prescriber:
   District of Columbia [12]
11. May be refilled if prescriber does not state otherwise on the prescription:
   New Jersey [13]
   New York [14]
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Alabama	North Carolina
Georgia	Oklahoma
Indiana	Puerto Rico
Maine	Rhode Island
Maryland	South Carolina
Missouri	Tennessee
Nevada	West Virginia
New Hampshire	

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California.—The provisions of the law do not apply to the sale of any dangerous drug by a manufacturer or wholesaler or pharmacy to each other or to a physician, dentist, chiropodist, or veterinarian or to a laboratory under sales and purchase records that give currently the date, the names, and addresses of the supplier and the buyer, the drug, and the quantity. All records of manufacture and of sale or disposition of dangerous drugs shall be at all times, during business hours, open to inspection by authorized officers of the law, and shall be preserved at least three years.

Colorado.—Regulation 7 of the State Board of Pharmacy of Colorado provides the following: Sales of barbital and/or other hypnotic and somnifacient drugs by manufacturers to wholesalers, retailers, or medical practitioners; by wholesalers to retailers or to medical practitioners, and by one retailer to another,

[11] Provided original is not designated by the prescriber as not to be refilled.
[12] By regulation.
[13] By regulation. Constant or frequent renewals, except for patients afflicted with epilepsy or other nervous diseases, are regarded as a "violation of the spirit of the law."
[14] No copies of prescriptions may be issued.

when carried out in good faith and not for the purpose of evading the provisions of this Act, are permitted without the use of a prescription. Invoices or bills of sale of equivalent records covering the sale of barbital and/or other hypnotic and somnifacient drugs under the conditions specified above must be kept on file by manufacturers, wholesalers, retailers, and medical practitioners for a period of at least five years and must be open to inspection.

Sales of barbital and/or other hypnotic or somnifacient drugs by retailers to physicians, dentists, and veterinarians must be made on prescription written by the medical practitioner and such prescriptions must be kept on file by the pharmacist in the same manner as other prescriptions under this Act.

Michigan.—Manufacturers, wholesalers, and retailers of drugs may sell, offer for sale, barter, or otherwise dispose of, or be in possession of for sale, to licensed physicians, dentists, veterinarians, druggists, pharmacists, police laboratories, and public health laboratories or hospitals, any of the following dangerous drugs: barbituric acid and any of its derivatives, chloral hydrate, or paraldehyde; provided, however, that a record of all such drugs, and their disposition, shall be kept, by the manufacturers, wholesalers, or retailers, which record shall be open to inspection by an officer of any organized police force of this state or any prosecuting attorney or his investigators.

All records required to be kept under the provisions of this Act shall be preserved for a period of two years.

Nebraska.—A pharmacist may dispense any of these drugs to a licensed physician, dentist, or veterinarian who wishes to obtain them for dispensing to his patient, by taking a signed order for the same, which order shall be filled as if it were a prescription.

New Jersey.—Regulation 7 of the Board of Pharmacy of the State of New Jersey is identical in wording to that of Regulation 7 of the State Board of Pharmacy of Colorado, described above.

DISPENSING OF BARBITURATES AND OTHER HYPNOTIC DRUGS BY PHYSICIANS, DENTISTS, AND VETERINARIANS

The laws of only 16 states and one possession contain specific provisions authorizing the dispensing of barbiturates and other hypnotic drugs by licensed physicians, dentists, veterinarians, or other medical practitioners. Seven of these laws contain provisions which require the keeping of records of all such transactions, or compliance with certain labeling requirements, or both.

No direct reference to dispensing by medical practitioners is found in the remaining 18 laws regulating the distribution of barbiturates and other hypnotic drugs. In many cases it is implied that dispensing by medical practitioners is permitted. However, two of these laws, those of Tennessee and West Virginia, contain provisions which, if interpreted literally, would have the effect of restricting all dispensing to that done by registered pharmacists.

The laws of the following contain provisions authorizing the dispensing of these drugs by licensed medical practitioners:

Colorado	Minnesota	Puerto Rico [15] [16]
Delaware [15]	Nebraska	Rhode Island
Georgia [16]	New Hampshire	South Carolina [15]
Maine	New Jersey [15]	Vermont [15]
Maryland	New York [15]	Virginia
Michigan	Pennsylvania [15]	

The special provisions applying to dispensing by medical practitioners in the seven laws mentioned above, are summarized below.

Delaware.—An accurate record of the name and address of the patient, the date, and quantity of the drug dispensed, as well as an accurate record of all renewals, must be kept.

New Jersey and New York.—A record must be kept of the date, the drug dispensed, the quantity, and the name and address of the patient.

Pennsylvania and Puerto Rico.—Records must be kept of the amount of such drugs purchased and a dispensing record must be maintained showing the date, name, and quantity of the drug dispensed, and the name and address of the patient. The Pennsylvania law requires that the label shall show the name and address of the dispenser, the date dispensed, the name and address of the patient,

[15] Law contains provisions concerning the keeping of records or labeling requirements, or both.

[16] A physician is defined in the law as a person authorized to use, mix, prepare, dispense, and administer drugs.

and directions for use. The Puerto Rico law requires the label to show the name of the patient, the name of the physician, and the date. The Pennsylvania law further provides that all purchasing and dispensing records shall be held for at least 5 years.

South Carolina.—The label must show the name and address of the prescriber (and the name and address of the dispenser).

Vermont.—Physicians, dentists, and veterinarians are required to keep a record in a suitable book showing the names and addresses of all patients to whom these drugs are dispensed. The law provides that a veterinarian shall not prescribe any of the drugs mentioned in this act for the use of a human being.

As indicated above, it is questionable whether the dispensing by a medical practitioner in the states of Tennessee and West Virginia is permitted, except in the event that the practitioner also happens to be a registered pharmacist.

Tennessee.—The Tennessee law reads as follows:

"It shall be unlawful for any person, firm, or corporation to sell, barter, or give away any drug known as Barbital, as defined herein, except upon the written prescription of a duly licensed physician, dentist, or veterinarian, and compounded or dispensed by a duly registered pharmacist." No exemption clause is found elsewhere in the act authorizing the dispensing of these drugs by physicians, dentists, or veterinarians.

West Virginia.—The pertinent provision of the West Virginia law reads as follows:

"*Provided further*, That in order to carry out the intent of this section to control the misuse of certain drugs that no Malonylurea or any of its salts, derivatives, mixtures, or preparations thereof shall be sold or dispensed, at retail, by any person not a pharmacist as defined." Elsewhere in the law a pharmacist is defined to mean a licensed pharmacist. No provision is found elsewhere in the law permitting the dispensing of barbiturates by a physician, dentist, or veterinarian.

LABELING REQUIREMENTS APPLYING TO THE PHARMACIST

Analysis of the specific requirements of the existing laws concerning the information to be placed on prescription labels also shows a general lack of uniformity. Only 22 laws contain specific references to labeling requirements. However, the absence of a reference to a specific requirement does not mean necessarily that no such requirement exists in a given state, because there may be a general law imposing the requirement upon all prescription labels.

A summary of the information required on the label by specific provisions of laws is shown below.

1. Date:
   - California
   - Colorado
   - Connecticut
   - Delaware
   - Florida
   - Georgia
   - Indiana
   - Maryland
   - Michigan
   - Missouri
   - Nebraska
   - Nevada
   - New Jersey
   - North Carolina
   - Pennsylvania
   - Puerto Rico
   - Washington
2. Prescription serial number:
   - California
   - Colorado
   - Connecticut
   - Delaware
   - Florida
   - Indiana
   - Maryland
   - Missouri
   - Nebraska
   - Nevada
   - New Jersey
   - New York
   - North Carolina
   - Pennsylvania
   - Rhode Island
   - Washington
3. Name of pharmacist:
   - Colorado
   - Delaware
   - Maryland
   - Nebraska
   - New Jersey
   - Pennsylvania
   - Rhode Island
4. Name of dispenser:
   - Indiana
   - Michigan
   - Missouri

5. Name of the seller:
   - Connecticut
   - Florida
   - Nevada
   - North Carolina
6. Name of the pharmacy:
   - Washington
7. Name of the drug store or pharmacy:
   - Georgia
   - Puerto Rico
8. Name of the supplier:
   - California
9. Name of the owner of the establishment dispensing:
   - New York
10. Name of the person, firm, or corporation dispensing:
    - South Carolina
11. Address of the pharmacist:
    - Colorado
    - Delaware
    - Maryland
    - Nebraska
    - New Jersey
    - Pennsylvania
12. Address of the supplier:
    - California
13. Place of business of the seller:
    - Connecticut
    - Florida
    - Nevada
    - North Carolina
14. Address of the pharmacy:
    - Washington
15. Address of the drug store or pharmacy:
    - Georgia
    - Puerto Rico
16. Place of business of the dispenser:
    - Indiana
    - Missouri
17. Address of the owner of the establishment dispensing:
    - New York
18. Place of business of the pharmacist:
    - Rhode Island
19. Address of the person, firm, or corporation dispensing:
    - South Carolina
20. Name of the prescriber:
    - California
    - Colorado
    - Connecticut
    - Delaware
    - Florida
    - Georgia
    - Indiana
    - Maryland
    - Missouri
    - Nebraska
    - Nevada
    - New Jersey
    - New York
    - North Carolina
    - Pennsylvania
    - Puerto Rico
    - South Carolina
21. Address of the prescriber:
    - South Carolina
    - Washington
22. Initials of the pharmacist compounding the prescription:
    - Washington
23. Name of the person for whom prescribed:
    - California
24. Name of the patient:
    - Georgia
    - Michigan
    - Puerto Rico
    - Washington
25. Directions for use:
    - California
    - Colorado
    - Delaware
    - Maryland
    - Minnesota
    - Nebraska
    - New York
    - Washington
26. "Use only as directed" label attached:
    - Minnesota
27. "Cannot be renewed" label attached:
    - District of Columbia

EXEMPT PREPARATIONS

As shown in the discussion of legal requirements concerning the retail sale of barbiturates and other hypnotic drugs, 34 of the 35 laws reviewed require that sales at retail be on the prescription of a licensed medical practitioner. Thirteen of these laws make no provision for exemption from this requirement. The remaining 21 laws provide for so-called exempt preparations, but there is little agreement as to the types of preparations defined under this classification. The complete summary follows:

1. No exemptions:
   - Alabama
   - Arkansas
   - California
   - Connecticut
   - Florida
   - Indiana
   - Maine
   - Michigan
   - Minnesota
   - Missouri
   - Nevada
   - North Carolina
   - Tennessee
2. Any preparation containing less than 1 gr. per avoirdupois or fluid ounce:
   - Alaska
3. Preparations containing less than 1 gr. of barbiturates per avoirdupois or fluid ounce and preparations of sulfa drugs for external use and external veterinary use if approved as safe for such use by the State board of pharmacy:
   - Washington
4. Preparations of chloral hydrate containing less than 2 gr. to the ounce:
   - West Virginia
5. Preparations containing less than 4 gr. of the respective included drugs to the avoirdupois or fluid ounce:
   - Georgia
   - Oregon
   - Puerto Rico
6. Preparations of benzedrine intended for nasal or other external use:
   - Oklahoma
7. Preparations containing less than 10 gr. of barbiturates, derivatives of sulphonmethane, chloral, chloral hydrate, and chlorobutanol per avoirdupois or fluid ounce and preparations of chloral, chloral hydrate, and chlorobutanol when intended for external use:
   - Delaware
8. Compounds containing not more than one-fourth the standard dose, provided other active medicinal ingredients present preclude the use of the compound to obtain the full effects of the barbiturate:
   - South Carolina
9. Preparations containing not more than 3.0% of chlorobutanol present as an analgesic or analgesic and preservative in preparations containing one or more active ingredients and intended for parenteral use:
   - Louisiana [17]
10. Preparations intended for external use:
    - Vermont
11. Derivatives, compounds, preparations or mixtures of chloral, chloral hydrate, or chlorobutanol intended for external use:
    - Maryland
12. Preparations intended for external use and containing other agents conferring different medicinal properties:
    - Colorado, New Jersey, New York, Pennsylvania, Rhode Island
13. Preparations containing drugs in the sulfanilamide group intended for external use and compounded so as to be unfit for internal use:
    - Virginia
14. Compounds involving synergic action where the presence of other drugs render it incapable of being used for its hypnotic effect and compounds or mixtures or preparations used externally provided some other drug conferring different medicinal properties is present:
    - Nebraska
15. Patent or common medicines handled by stores and commissaries for exclusive use in the treatment of sick mules, horses, cows, dogs, cats, or other such animals:
    - Mississippi

[17] By regulation.

16. Acetanilid, in dosage of less than 5 gr. per day; acetophenotidin or antipyrine, in dosage of less than 15 gr. per day; benzedrine sulfate, for external use; bromides, in dosage less than 30 gr. per day or less than 15 gr. in any three-hour period; bromide-acetanilid, in dosages less than 15 gr. of bromide per day and 5 gr. of acetanilid per day or less than 7½ gr. of bromide and less than 2½ gr. of acetanilid in any three-hour period; cantharides, for external use; ephedrine solution, less than 1%; ipecac, in dosages less than 10 gr. per day or when given in larger dosage as a prompt emetic; phenol for external use, if less than 2% or if directions for use indicate dilution to less than 2%; squill, in dosages of less than 5 minims of tincture and 7½ minims of syrup and strychnine and all of its salts in dosages of less than 1/30 gr. per day:
    District of Columbia [17]

ILLEGAL POSSESSION

The laws of seven states and one possession contain clauses which state that possession, by persons other than manufacturers, wholesaler, pharmacists, medical practitioners, laboratories, hospitals, and other authorized individuals, is unlawful, except under certain conditions. These laws are those of Arkansas, California, Georgia, Michigan, Minnesota, Mississippi, Puerto Rico, and South Carolina. The conditions under which possession becomes a violation of the law are summarized below:

1. Possession other than as authorized in the respective laws:
    Arkansas
    Minnesota
2. If the drug is not in the original container in which it was dispensed by the pharmacist or physician:
    Georgia
    Michigan
    Puerto Rico
3. Unless the label shows the name and address of the prescriber and the name and address of the dispenser:
    South Carolina.
4. Unless furnished on the prescription of a physician, dentist, chiropodist, or veterinarian:
    California.
5. Unless prescribed by a physician, dentist, or veterinarian possessing a valid U. S. Narcotic License:
    Mississippi.

The laws of six other states—Colorado, Delaware, Maryland, Nebraska, New Jersey, Pennsylvania, and Rhode Island—all contain clauses making it unlawful for a manufacturer, pharmacist, or other dealer to hold these drugs in his possession unless the container has a label attached stating in printed words the specific name of the drug and the proportion or amount thereof. This provision does not apply to a drug dispensed on a prescription.

VIOLATIONS

The law of Minnesota describes a violation as a gross misdemeanor; the laws of 22 states,[18] the District of Columbia and Puerto Rico designate the violation as a misdemeanor. The violation is not classified in the laws of the remaining nine states [19] and Alaska, although specific penalties are established in the laws of seven of these.[20] In addition, the laws of Georgia and Alabama, although defining the violation as a misdemeanor, do not state the penalty specifically.

PENALTIES

The laws of five states—Delaware, Georgia, Mississippi, Rhode Island, and Washington—fail to state, in the law covering barbiturates, the exact penalty for violation. Two of these laws, those of Georgia and Mississippi, classify the violation as a misdemeanor and provide that the punishment should be that provided elsewhere by law for such an offense.

[17] By regulation.
[18] Alabama, Arkansas, California, Colorado, Florida, Georgia, Indiana, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nebraska, Nevada, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carlina, Tennessee, Virginia.
[19] Connecticut, Delaware, Maine, New Hampshire, New Jeresy, Rhode Island, Vermont, Washington, and West Virginia.
[20] Alaska, Connecticut, Maine, New Hampshire, New Jersey, Vermont, West Virginia.

The laws of seven states establish fines as the only penalty. Five of these laws make no distinction between first and subsequent offenses. The laws of two of these states, New Jersey and Pennsylvania, provide for increased fines for second, and for third and subsequent offenses.

The laws of ten states and Alaska and Puerto Rico assign penalties involving fines or imprisonment or both, and with one exception (California) make no distinction between first and subsequent offenses. However, the California law specifies that upon a third conviction proceedings shall be initiated for the forfeiture of the professional license. This is the only law which makes any reference to the revocation of licenses as a possible penalty. The law of Puerto Rico provides for imprisonment up to ninety days, or a fine of $1.00 per day for each day of the sentence that is not served.

Nine states and the District of Columbia provide for penalties involving fines or imprisonment, or both, and establish increased penalties for second and subsequent violations.

The laws of two states, Nebraska and Colorado provide for penalties involving fines and imprisonment, or both, and establish a series of penalties on an increasing scale for first, for second, and for third and subsequent offenses. The Nebraska law does not impose imptisonment as a part of the penalty except for third and subsequent offenses.

A tabulation of the penalty provisions of the thirty laws containing them is shown in Table IV.

SUMMARY

As of October 1, 1945, thirty-two states, Alaska, Puerto Rico and the District of Columbia had laws in force which either directly or indirectly control, or could be used for the purpose of controlling the distribution of barbiturates of barbiturates and other drugs. Four additional states exercise control by regulation by appropriate agencies of the state governments in the absence of statutes. Six states having laws and the District of Columbia have promulgated regulations dealing with the control of these drugs.

The first state law on barbiturates was that of California, enacted in 1929. This law has since been repealed and replaced by a new law adopted in 1945. Oklahoma replaced its former law of 1933 by a new law in 1945 and New York adopted a new law in 1945.

TABLE IV.—*Penalties*

I. PENALTIES INVOLVING FINES ONLY

A. SINGLE OFFENSES

Fine	State
$10.00 to $100.00	Arkansas.
Up to $100.00	Maryland.
$10.00 to $250.00	Oklahoma.
$10.00 to $500.00	Alabama.
$25.00 to $250.00	Tennessee.

B. INCLUDING FIRST, SECOND, AND THIRD, AND SUBSEQUENT OFFENSES

First offense, $25.00 to $50.00; second offense, $50.00 to $100.00; third and subsequent offenses, not less than $100.00—New Jersey, Pennsylvania.

II. PENALTIES INVOLVING FINES OR IMPRISONMENT, OR BOTH

A. SINGLE OFFENSES

Fine	Imprisonment	State
$50.00 to $500.00	Up to 6 mo., or both	California.[1]
$50.00 to $500.00	Up to 1 yr., or both	New Hampshire.
$50.00 to $1,000.00	Up to 1 yr., or both	Vermont.
$100.00 to $500.00	Up to 180 days, or both	Alaska.
Up to $100.00	Up to 6 mo., or both	Maine.
Up to $200.00	Up to 6 mo., or both	Oregon.
Up to $500.00	Up to 6 mo., or both	Nevada.
Up to $500.00	Up to 1 yr., or both	Michigan.
Up to $500.00	Up to 18 mo., or both	South Carolina.
	Up to 90 days	Puerto Rico.[2]
Up to $100.00	Up to 1 yr., or both	Minnesota, Missouri.

B. FIRST AND SECOND AND SUBSEQUENT OFFENSES

	First offense	Second and subsequent offenses	State
Imprisonment		Up to 6 mo	Virginia.
Fine	Up to $100.00	Up to $1,000.00, or both	
Imprisonment	Up to 6 mo	Up to 1 yr	Florida.
Fine	Up to $500.00, or both	Up to $1,000.00, or both	Connecticut.
Imprisonment	Up to 6 mo	Up to 12 mo	North Carolina.
Fine	Up to $200.00, or both	Up to $400.00, or both	
Imprisonment	Up to 6 mo	Up to 2 yr	Indiana.
Fine	$10.00 to $1,000.00, or both	$50.00 to $2,000.00, or both	
Imprisonment	Up to 1 yr	Up to 2 yr	Louisiana.
Fine	Up to $1,000.00, or both	Up to $3,000.00, or both	
Imprisonment	Up to 1 yr	Up to 2 yr	New York.
Fine	Up to $500.00, or both	Up to $1,000.00, or both	
Imprisonment	Up to 1 yr., or both	Up to 5 yr., or both	
Fine	Up to $100.00	Up to $1,000.00	West Virginia.
Imprisonment	Up to 1 yr	Up to 3 yr	District of Columbia.[3]
Fine	Up to $1,000.00, or both	Up to $10,000.00, or both	

C. FIRST, SECOND, AND THIRD, AND SUBSEQUENT OFFENSES

	First offense	Second offense	Third and subsequent offenses	State
Imprisonment			One year, or both	
Fine	$25.00 to $50.00	$50.00 to $100.00	Not less than $100.00	Nebraska.
Imprisonment	Up to 6 mo	Up to 6 mo	Up to 6 mo	
Fine	$25.00 to $50.00	$50.00 to $100.00	Not less than $200.00	Colorado.

[1] Proceedings for forfeiture of professional license shall be initiated for the third and subsequent offenses.
[2] Or a fine of $1.00 per day for each day of the sentence which is not served.
[3] Except that a first conviction with intent to defraud or mislead shall be punished as if for a second or subsequent offense.

The existing laws may be classified as special laws, covering barbiturates, either including or excluding other hypnotics and/or other drugs, and general laws such as the so-called Uniform Food, Drug and Cosmetic Laws or the State Narcotic Laws. Twenty-five of the laws are special laws and ten are general laws.

Wide differences are noted in the drugs covered by these laws and regulations varying from barbiturates only, as is the case in the laws of Arkansas, Maine, Oregon, South Carolina and Tennessee, to the broad coverage of the New Hampshire law, which includes all drugs having a dose of 60 gr. or minims or less. In some of the general laws, barbiturates and, in some cases, other hypnotic agents are incorporated in the narcotic laws. In others where the State Uniform Food, Drug and Cosmetic Act is used as the legal basis for control, the tendency is to include the barbiturates with dangerous drugs, such as derivatives of sulfanilamide, cinchophen, dinitrophenol and similar drugs.

All but one of the 35 laws, that of New Hampshire, restrict the sale of barbiturates, or barbiturates and other drugs, to prescriptions. In this case the general law on potent drugs limits the sale of all such drugs to a registered pharmacist or assistant pharmacist. Thirteen laws require that sales must be made by pharmacists, two require that sales be made by registered drug stores only, one requires that sales be made by retail pharmacists only and one specifies that the dealer must have a valid United States Narcotic license.

Five laws prohibit the renewal of prescriptions: one permits the renewal of prescriptions for phenobarbital only; two permit refills upon the written order of the prescriber only; two permit renewals with either the oral or written order of the prescriber; another permits a refill under the same conditions provided the date of such renewal is recorded on the original prescriptions; refills are permitted in another law only if the prescriber endorses on the face of the prescription the specific number of times the prescription may be refilled; two laws merely require that authorization be obtained from the prescriber; two laws require that records be kept of all refills; one state permits the refilling of only those prescriptions calling for less than 2 gr. of phenobarbital per ounce and those containing diphenylhydantoin, aminopyrine and thyroid and derivatives; two state laws permit refills if the prescriber does not state otherwise on the prescription, and the regulations in effect in the District of Columbia limit the number of refills to two. Fifteen laws make no reference to the refilling of prescriptions.

Only six laws make any provisions for controlling sales at the wholesale level. One provides for triplicate order blanks, one copy to be sent to the supplier, another to be filed with the Food and Drug Division of the State Board of Health, and the third to be retained. The regulations of three states provide for the preservation of all invoices, bills-of-sale or equivalent records, subject to inspection. One law requires records to be kept of the manufacture, sale and disposition of barbituric acid and its derivatives, chloral hydrate and paraldehyde. Another law states that a pharmacist may dispense the included drugs to a licensed physician, dentist or veterinarian upon a signed order which must be filed as if it were a prescription.

Only 17 laws specifically authorize the dispensing of barbiturates by licensed medical practitioners, and seven of these laws impose requirements either for labeling or for the keeping of records, or both. The laws of two states apparently limit all dispensing of these drugs to registered pharmacists.

An analysis of the labeling requirements which must be observed by the pharmacist shows a marked lack of uniformity in these requirements. Only 22 laws make specific reference to this subject. However, it is probable that in many cases detailed requirements are stated elsewhere in general laws which were not included in this survey.

Thirteen of the 34 laws limiting retail sales to prescriptions make no provision for exemption from this requirement. The remaining 21 laws recognize certain preparations as exempt, but the exemptions are identical only in the case of three of these laws. This wide disparity is partially due to the differences in the drugs covered by the individual laws.

Illegal possession is made a violation of the laws of seven states and Puerto Rico. The conditions under which possession is declared illegal are possession other than as authorized by law; if not in the original container in which it was dispensed by the pharmacist or physician; unless the label shows the name and address of the prescriber and the name and address of the dispenser; unless furnished on the prescription of a physician, dentist, chiropodist or veterinarian;

unless prescribed by a practitioner possessing a valid United States Narcotic license.

Violations are defined as gross misdemeanors by one state, as misdemeanors by 22 states, the District of Columbia and Puerto Rico, and not specified by nine states and Alaska.

Penalties for violations cover a wide range and have been specifically stated by twenty-seven states, Alaska, Puerto Rico, and the District of Columbia. Fines extend from a minimum of ten dollars to a maximum of ten thousand dollars and prison terms vary from a minimum of ninety days to a maximum of five years.

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Barbiturates—Are They Narcotics?*

By Samuel W. Goldstein †

The distinction between narcotics and hypnotics is discussed. Differences in authoritative opinions concerning the inherent dangers of the barbiturates are indicated. Data based on hospital records to barbiturate habituation are presented and the need for legislation regulating barbiturate distribution is emphasized. The author concludes that legally barbiturates should not be classified as narcotics.

The problem of adequate control of the distribution of barbiturates is recognized by many. The seriousness of the situation is shown by statistical data (1–3). The solution of the problem is being diligently sought by professional and lay groups. The medical and pharmaceutical groups seek to achieve control of barbiturate distribution by sponsoring effective uniform State laws. The lay groups seek to have the barbiturates legally classified as narcotics and made subject to all the regulations applying under the Federal Narcotic Act. Responsible public-health officials are acutely aware of the barbiturate problem and agree that legislation of some kind is necessary. Dr. Paul Dunbar, United States Commissioner of Foods and Drugs, during a recent discussion of control of barbiturate distribution, stated: "A Federal law would be too complicated and drastic. Uniform State laws would be more satisfactory" (4).

NARCOTICS AND HYPNOTICS

The barbiturates are generally referred to as hypnotics. What is the difference between narcotics and hypnotics? Medical dictionaries (5) list the two terms without cross-references. The definitions for "narcotic" state that stupor or sleep is produced and that pain is relieved. "Hypnotic" is defined as a drug that induces sleep. "True hypnotics" produce normal sleep. Other hypnotics include chloroform, opium, and other drugs that have an anodyne effect. Apparently the lexicographers interpret the two terms as having separate meanings. European medical writers customarily use the term "narcotic" to include hypnotics and frequent references are made to the barbiturate narcotics. American medical literature contains many statements about the hypnotic effect and the narcotic effect of barbiturates but almost always refers to the barbiturates as hypnotics. Finally we have the legal definition of "narcotic drugs" as "coca leaves, opium, cannabis, and every substance not chemically distinguished from them" (6).

Undoubtedly the main reason for passing the Federal Narcotic Act in 1914 was the rapid increase in the number of addictions to opiates and coca derivatives. During the period that this law has been in force the term "narcotic" has been accepted as applying to opiates, coca derivatives, and cannabis or marihuana. The question now being raised is this, Should the barbiturates be added to this group of drugs?

Among physicians there are honest differences of opinions as to the dangerous nature of barbiturate medication. Shelton (7) states: "* * * The barbituric acid derivatives produce severe pathological changes in the organism when given in large doses over any moderate length of time. Even the small therapeutic doses when frequently repeated cause a moderate amount of tissue destruction. The barbiturates have an affinity for nervous tissue cells and destruction is most marked in the higher centers of the central nervous system." G. W. Robinson,

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Sr., (8) states: "In the treatment of mental ill health barbiturates have a place, but only to meet emergencies and temporarily to relieve the patient of insomnia and mental distress. It is a form of medication which may be temporarily helpful in relieving symptoms, but if continued over a period of days or weeks will do much more harm than good." Gorgan (9) discusses the various uses of barbiturates in mental hospitals. He describes the results obtained and continues: "All this is attained with no harm to the patient. I have never seen barbiturates, used in the ways described, bring about addiction to the drug. The few cases of barbiturate addiction that have come to my attention had an extremely apparent underlying psychiatric basis for their addiction." Grogan stresses the point that in all cases where barbiturates are administered over a long period of time, the minimum effective dose for the patient should be established and maintained.

Moore and Gray (10) in their discussion of patients who were believed to have a psychosis due to drugs (including barbiturates) or exogenous chemical poisons, state: "Many patients cleared mentally in a short time after withdrawal of the drugs. A few grew steadily worse, particularly those who had been using morphine and opium, probably due to the onset of withdrawal symptoms which are characteristically seen in users of the narcotic phenanthrene derivatives. Present knowledge concerning dependence on drugs is negative, for this phenomenon appears only upon withdrawal of drugs. The phenanthrene derivatives (morphine, etc.) appear to produce more dependence than do some of the coal-tar drugs (barbiturates, for example). Persons who use drugs are motivated by the same mechanisms as obtain in alcoholism, and it is pointed out that drugs, other than alcohol, do not approach the importance of that substance as contributory factors in the production of mental disease."

BARBITURATE ADDICTION

A large proportion of the barbiturate addiction cases are associated with opiate addiction. Many of these will return to complete dependence upon opiates as soon as these drugs become available. The sad fact is that the opiates will become available in spite of the truly valiant work of our too small group of Federal narcotic control agents. If some other countries were nearly as diligent as the United States in the curbing of traffic in opiates, cocaine, and cannabis, the already admirable results of the efforts of our enforcement agents would be even more spectacular. Nevertheless, during the period of 1940–45, which included the war years when importation of opiates was practically eliminated, the addictions recorded in certain hospitals showed that the ratio of barbiturate addictions to total addiction cases did not increase.

While the hospital records of addictions give a picture that is far from complete, they are at present the most reliable data available. Furthermore, the comparison of hospital data from two different periods gives an indication of the frequency of occurrence of addictions due to all drugs and of barbiturate habituation.

Hambourger (2) reported that for the decade 1928–1937 thirteen hospitals listed eighty-five cases under barbiturate addiction, and incidence of about one case for every 15,000 admissions. He reported more complete data for the following five hospitals: Baylor University, Dallas, Texas; Boston City, and Peter Bent Brigham, Boston; Presbyterian, New York; Michael Reese, Chicago. These hospitals had combined admissions for all causes of 761,923 cases. They had 398 cases of addictions to all drugs (excluding chronic alcoholism), forty-three of which, or 10.8 percent, involved barbiturates; about one of every nine addiction cases.

The present author has compiled data for the six-year period 1940–1945, from the records of the following hospitals: Baylor University, Dallas, Texas; Boston City, Boston; Cleveland City, Cleveland; Presbyterian, New York; Presbyterian, Michael Reese, and University Clinics, Chicago; Walter Reed General, Washington, D. C.; St. Mary's, St. Louis; Baltimore City, Johns Hopkins, Mercy, Sinai, Union Memorial, and University, Baltimore. These hospitals had combined admissions for all causes of 1,138,887 cases. They had 715 cases of addiction to all drugs (excluding chronic alcoholism), sixty-eight of which, or 9.5 percent, involved barbiturates; about one of every eleven addiction cases. The incidence of barbiturate addiction in the total admissions was one case in every 17,000 admissions. These data show that the frequency of barbiturate addiction compared to total admissions and to addictions to all drugs decreased in the 1940–1945 period. They also show that the frequency of addictions to all drugs

compared to total admissions increased from one in every 1,900 admissions during 1928–1937 to one in every 1,600 admissions during 1940–1945.

This does not mean that the entire barbiturate situation improved during the years following 1937. Data published by Goldstein (1) show that this is far from true. But the present data emphasize the far lesser danger of addiction by barbiturates than by other habit-forming drugs, especially those legally classified as narcotics.

WITHDRAWAL SYMPTOMS

While continued daily use of barbiturates can lead to habituation, the almost complete absence of withdrawal reactions is in marked contrast to the reactions produced when drugs are withheld from opiate addicts. Barbiturates do not produce the euphoria or sense of well-being in the same sense or extent that is produced with opiates, cocaine, or cannaibis. Barbiturates are not analgetic or pain-relieving as are the opiates. The habituation developed on long usage of barbiturates is broken very easily compared with the addictions to opiates and cocaine. The barbiturates, when used alone, do not cause the psychic reactions which lead marihuana users to commit criminal acts. The continued use of opiates leads to the development of such a tolerance to the drug that addicts who desire euphoria are driven to the use of ever-increasing doses, sometimes ten or twenty times more than would be fatal to an unaccustomed individual (11). With barbiturates, a certain amount of physical adaptation is readily acquired, as with alcohol; but there is little real tolerance for large doses. Prolonged use of barbiturates by psychologically susceptible persons may cause the development of psychical degeneration and mania, as with alcohol, but these are often absent after long continued daily administration. With opiates, daily use will lead to addiction in ten days with susceptible individuals, and in twenty to twenty-five days in those with normal emotional stability (12).

The following case history, submitted by I. Kaplan, M. D. (13), is an example of the rational use of barbiturates over an extended period of time. A 60-year-old male suffered an attack of coronary thrombosis. To insure complete rest, he was given 1 grain of phenobarbital sodium every 4 hours and 1½ grains of pentobarbital sodium each night for a period of 4 weeks. Following this, the daily administration was limited to the nightly dose. The case was complicated by the development of an embolism during the third week. After 9 weeks of daily barbiturate administration, the improved patient showed no signs of drug intoxication, but showed sufficient drug dependence to demand his sleeping pill each night. During the tenth and eleventh weeks the patient, on his physician's advice, cut his sleeping pills down to one every other night. When he became ambulatory, during the twelfth week, the administration of barbiturates was discontinued with no apparent ill effects to the patient.

In 1940, G. W. Robinson, Jr., M. D. (14) discussed the seriousness of the barbiturate situation, and made the following statements: "It should not be necessary to wait for lawmakers [to correct the condition]. The physicians of the country are largely responsible for the situation. We have been too gullible in accepting the statements of the manufacturers and, worse if possible, we have passed those statements on to the laymen. Patients have been told by the family doctors, the consulting specialists, their nurses, and others in authority that they can take this medicine as long as they want to, that it will not hurt them and will not form a habit. There may have been a time when the knowledge of the dangers of these drugs was so limited that such statements could be made with sincerity but that day is past * * * "

Robinson may have been too harsh with his colleagues, but surely many physicians, pharmacists, and nurses still must be convinced of the dangers in barbiturate usage. The educational program should be pushed. The legislative program is being activated. The question as to how severe the legislative restrictions must be to achieve proper control has been studied and reported by Fischelis (15). The legislative committee of the American Pharmaceutical Association and the National Drug Trade Conference have endorsed a model Uniform State Barbiturate Act. The various State pharmaceutical and medical societies are studying this bill in order to make any necessary changes before its introduction to the State legislatures for enactment. This legislation should go far to correct the faults in the present system of barbiturate distribution.

The classification of barbiturates as narcotics may have some valid basis when considered only from a pharmacological viewpoint. But, taking the foregoing data into consideration, the answer to the question: Should the barbiturates be classed as narcotics legally? is, "No."

SUMMARY

1. The ambiguous uses of the terms "narcotic" and "hypnotic" are discussed.

2. The differences in opinion among physicians regarding the dangerous nature of the barbiturates is indicated.

3. Hospital records for the periods 1928–1937 (I) and 1940–1945 (II) yielded the following data:

(*a*) Addictions to all drugs (chronic alcoholism excepted): Period I. One in every 900 admissions. Period II. One in every 1,600 admissions.

(*b*) Addictions to barbiturates: Period I. One in every 15,000 admissions. Period II. One in every 17,000 admissions.

(*c*) Relationship of barbiturates habituation to total addictions: Period I. One in every nine, or 10.8 percent. Period II. One in every eleven, or 9.5 percent.

4. The need for effective legislation to regulate barbiturate distribution is emphasized.

5. The question of legally classifying barbiturates as narcotics is answered in the negative.

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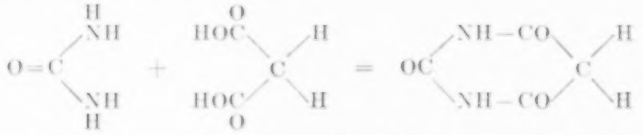
Barbiturates: A Blessing and a Menace*

By Samuel W. Goldstein † ‡

The development and therapeutic status of barbituric acid derivatives are reviewed and those in general use as therapeutic agents are tabulated. Data are presented on the incidence of poisonings in the United States by barbiturates. The nature of problems relating to the use and misuse of barbiturates is discussed and the need for corrective uniform state legislation is stressed.

During the past forty-two years there have been five outstanding discoveries which have greatly fortified the armamentarium of the physician: (*a*) barbiturates (1903); (*b*) salvarsan (1907); (*c*) insulin (1922); (*d*) sulfonamides (1935), first prepared in 1909; (*e*) antibiotics (1940), although penicillin was first discovered in 1929. No group of drugs caused such chemical activity as the barbiturates until the advent of the sulfonamides.

Here was a combination of urea, the first organic compound to have been prepared synthetically, and malonic acid, a classic example of organic synthesis, to form malonylurea or barbituric acid.



Urea Malonic acid Malonylurea (barbituric acid)

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‡The author is indebted to the many individuals who cooperated in compiling the data.

The two hydrogen atoms in the methylene group of barbituric acid are very reactive and can be replaced indirectly by one or two aliphatic or aromatic groups to form compounds having hypnotic properties.

The first of these compounds to be introduced into medicine was the diethyl substituted product, barbital, prepared in 1903 by Emil Fischer and von Mering (1) and patented under the name "veronal." This was followed by phenobarbital or luminal which differs from barbital in that one of the ethyl groups is replaced by a phenyl group. The barbituric acid derivatives are only sparingly soluble in water, but the sodium salts, in which sodium replaces a hydrogen atom attached to nitrogen, are freely soluble in water and are referred to as the "sodium barbiturate," the "soluble barbiturate," or the "barbiturate sodium." Starting with thiourea in place of urea a new series of barbiturates has been prepared, the best of which is sodium ethyl (1-methylbutyl) thiobarbiturate or pentothal sodium.

APPROVED BARBITURATES

Over 1,500 different barbituric acid derivates have been prepared, but less than twenty have survived clinical use. Table I lists the clinically useful barbiturates that are recognized in the United States Pharmacopoeia XII and New and Nonofficial Remedies 1946, and gives the trade names, synonyms, and chemical names, the approximate relative duration of action, and the average adult hypnotic dose. Barbital was the first of the malonylurea series of drugs to become official in the USP and is still considered to be one of the best hypnotics. For years the drug manufacturers introduced barbiturates under confusing trade names, each claiming superior virtues for his product with respect to its potency, efficiency or shortness of action, margin of safety, and form and size or color of tablet or capsule. Gardner (2) considers only five barbiturates as essential: Barbital and phenobarbital and their sodium derivatives; pentobarbital sodium; evipal sodium, for intravenous anesthesia; and pentothal sodium, for prolonged intravenous anesthesia. Evipal and pentothal are recognized by the American Medical Association in New and Nonofficial Remedies, while the first three are recognized in the USP XII. Pentothal sodium, under the name tiopental sodium, will be included in the USP XIII which will become official in 1947. Gardner suggests that physicians should limit their barbiturate prescriptions to these five and thereby relieve the pharmacists of the necessity of stocking a large number of named and unnecessary preparations.

TABLE I.—*Barbiturates accepted for clinical use*

Trade names, synonyms, and chemical names	Recognized in—	Duration of action (approx.)[1]	Average adult hypnotic dose in gm.
Alurate:[2] Allylisopropylbarbituric acid	N. N. R.	M	0.065-0.13
Amytal:[2] Isoamylethylbarbituric acid	N. N. R.	M	.1-0.3
Barbital,[2,3] Barbitone, Veronal: Diethylbarbituric acid	U. S. P.	P	.3
Dial: Diallylbarbituric acid	N. N. R.	P	.1-0.3
Hexobarbital Soluble, Evipal Sodium, Evipal Soluble: Sodium N-methylcyclohexenylmethylbarbiturate.	N. N. R.	VS	
Ipral Calcium,[2] Probarbital Calcium: Calcium ethylisopropylbarbiturate.	N. N. R.	P	.12-0.25
Neonal, Soneryl, Butobarbital: *n*-Butylethylbarbituric acid	N. N. R.	P	.05-0.1
Nostal: Isopropyl-β-bromallylbarbituric acid	N. N. R.	P	.1-0.3
Ortal Sodium: Sodium *n*-hexylethylbarbiturate	N. N. R.	M	.2-0.4
Pentobarbital Sodium, Nembutal: Sodium ethyl(1-methylbutyl)barbiturate.	U. S. P.	M	.1
Pentothal Sodium, Thiopental Sodium:[4] Sodium ethyl(1-methylbutyl)thiobarbiturate.	N. N. R.[3]	VS	
Pernoston:[2] *sec.* Butyl-β-bromallylbarbituric acid	N. N. R.	M	.2
Phanodorn, Cyclobarbital: Cyclohexenylethylbarbituric acid	N. N. R.	M	.1-0.2
Phenobarbital,[2] Phenobarbitone, Luminal: Phenylethylbarbituric acid.	U. S. P.	P	.03-0.1
Sandoptal: Isobutylallylbarbituric acid	N. N. R.	M	.2-0.4
Seconal Sodium: Sodium allyl(1-methylbutyl)barbiturate	N. N. R.	S	.1-0.2
Vinbarbital Sodium, Delvinal Sodium: Sodium ethyl(1-methyl-1-butenyl)barbiturate.	N. N. R.	M	.1-0.2

[1] Duration of Action: M = Moderate; P = Prolonged; S = Short; VS = Very Short (intravenous).
[2] Sodium salt also in N. N. R. or U. S. P.
[3] Barbital Sodium also known as Medinal.
[4] Thiopental Sodium in U. S. P. XIII.

The medicinal use of the barbiturates is chiefly for the depression of the central nervous system. Depending upon the dose administered and the patient's reaction, the hypnotic effect can vary from a light sleep to a deep coma. The proper oral dose should induce sleep in twenty to sixty minutes. The barbiturates are used to inhibit convulsions as in strychnine poisoning, tetanus, and epilepsy. Phenobarbital is the drug of choice for epileptics because of its selective action upon the motor cortex. Barbiturates are useful in phychic sedation, producing a sound sleep the night before a surgical operation, and for allaying fears just before the operation. The average dose used to produce sleep does not depress the respiration, but large doses can cause death by respiratory failure. Overdoses of barbiturates can indirectly diminish the secretion of urine, and since urine is the most important avenue for the excretion of these drugs, especially the more stable compounds, the patient's recovery is delayed. Thiobarbiturates and barbiturates with complex cyclic radicals, e. g., evipal, are less stable and almost completely destroyed in the liver. McNally (3) states that individuals with impaired hepatic function have remained deeply anesthetized for long periods of time from a hypnotic does of evipal, which in a normal person would have caused an anesthesia for only fifteen minutes. He also states that the longer-acting barbiturates should not be given to patients with kidney dysfunction, because failure of the kidneys to excrete the barbiturate causes a cumulative toxicity which is noted in cases where this type of drug is used daily. Even in a normal individual a hypnotic dose of a stable barbiturate is detectable in the urine 9 days after ingestion of the drug.

McNally warns against the misuse of barbiturates in the field of obstetrics. Gardner recognizes the value of phenobarbital in small does as a simple sedative, but believes that the barbiturates as a group should be considered hypnotics, and used as such. He fears that many physicians have forgotten that the bromides and small doses of chloral hydrate and chlorobutanol may more efficiently be used as simple sedatives.

The emotional and nervous strain of the unsettled postwar period is making itself apparent by the increase in appeals to the family physician for relief. The barbiturates can be a blessing to individuals undergoing the mental tortures of sleepless nights due to various causes. The layman who experiences this relief and who has not been clearly warned about the possible dangers of intoxication by these drugs will naturally desire to continue using them. The first-time users should have impressed upon them by their physicians the proper use of the barbiturates. The patient's ability to obtain the drug should be curtailed by prescribing small quantities and writing directions for refilling the prescription when necessary. When no specific directions are given these prescriptions should not be refilled.

A vigorous campaign should be instituted by the American Medical Association to educate the physician to his responsibilities in this field of medication before conditions get so bad that public demand will require drastic legislative steps.

Hambourger (4), in 1940 reported that barbiturate addiction accounted for more than 10 percent of all addiction cases, excluding chronic alcoholism, reported by thirteen hospitals. Two-thirds of the barbiturate addicts who gave information claimed that they became familiar with the drug through a physician. Nearly a third of the addicts for whom the information was recorded developed craving when the barbiturate was withheld. None showed any serious withdrawal symptoms. It is apparent that addiction to barbiturates presents a problem but its seriousness cannot be compared to that caused by narcotics. Even now, after many years of heroic work by Federal agents, the cases of narcotic addiction are far greater than those of barbiturate dependence. The possibility of barbiturate addiction was considered serious enough by the Food and Drug Administration to lead to the ruling which states that the words "may be habit-forming" must appear on all proprietary preparations containing a barbiturate.

Barbiturates were at first thought to be so free from harmful effects that they were prescribed readily in all conditions where drug-induced relaxation or sleep was thought to be desirable. Indeed it is fortunate that with most individuals there is a wide margin between the therapeutic dose and the toxic dose for the barbiturates usually prescribed for oral administration. Ten to fifteen times the therapeutic dose has generally proved fatal although recoveries from massive doses (barbital 150–500 gr., phenobarbital 120–140 gr.) have been reported (4). Nonfatal poisonings from as little as 5 gr. of barbital and 3 gr. of phenobarbital have also been reported. Wide variations in relation to fatal and nonfatal doses have also been noted in hospital records studied by the author. Chronic poison-

ing is encountered where elimination is slow and cumulative toxic after-effects are manifested in mental and bodily weakness, tremors, and dizziness.

TABLE II.—*Deaths caused by barbiturates: Suicidal and accidental* [1]

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Alabama [2]	3	10	4	4	3	2	2	.....	4	.....
Arizona	.....	2	6	4	4	3	3	1	3	.....
Arkansas [2]	2	1	1	1	2	3	2	2	1	.....
California [2]	21	31	29	32	56	63	52	92	108	193
Colorado [2]	.....	3	2	4	2	7	8	2	4	.....
Connecticut [2]	6	9	9	10	9	8	8	6	10	.....
Delaware [2]	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dist. of Columbia [2]	4	5	8	8	5	2	2	.....	5	.....
Florida [2]	8	10	13	10	12	14	5	8	10	.....
Georgia [2]	5	8	3	3	3	6	.....	4	2	9
Idaho	2	4	2	1	3	1	1	.....	1	.....
Illinois	33	63	56	51	70	70	24	31	33	60
Indiana [2]	11	18	12	16	27	17	12	9	14	.....
Iowa	4	9	15	9	8	14	5	5	8	9
Kansas [2]	3	4	3	9	11	3	3	3	1	9
Kentucky	1	4	6	5	3	4	4	2	3	6
Louisiana [2]	4	1	4	9	2	4	5	1	2	.....
Maine [2]	4	3	1	4	3	5	4	.....	3	.....
Maryland [2]	4	1	1	1	5	3	5	7	7	9
Massachusetts	22	20	20	22	24	35	26	28	22	42
Michigan [2]	11	14	16	26	28	31	13	14	11	.....
Minnesota [2]	8	14	11	9	9	12	12	13	14	11
Mississippi [2]	.....	3	.....	.....	9	12	14	6	3	4
Missouri [2]	6	13	16	12	32	7	4	10	11	.....
Montana [2]	2	.....	.....	1	2	1	1	1	4	.....
Nebraska [2]	.....	2	1	4	6	3	3	2	1	.....
Nevada [2]	3	.....	1	2	1	.....	1	1	.....	.....
New Hampshire [2]	1	1	4	2	1	9	3	1	.....	.....
New Jersey [2]	7	4	7	7	17	13	9	12	11	.....
New Mexico	1	3	1	2	3	4	.....	3	2	.....
New York [2]	57	49	62	58	60	65	73	87	98	.....
North Carolina [2]	4	2	1	1	5	2	4	4	4	.....
North Dakota [2]	1	.....	.....	.....	3	1	2	.....	.....	.....
Ohio	28	21	45	32	55	71	42	38	38	72
Oklahoma [2]	5	6	6	3	1	2	3	4	5	.....
Oregon [2]	5	6	5	4	2	6	5	1	4	10
Pennsylvania [2]	12	15	10	15	18	20	18	21	18	.....
Rhode Island [2]	1	1	2	1	1	1	1	1	2	.....
South Carolina [2]	3	3	3	3	1	2	.....	.....	3	.....
South Dakota	.....	.....	1	.....	.....	.....	1	1	.....	.....
Tennessee [2]	4	5	2	4	2	2	3	1	5	.....
Texas	7	6	5	8	12	16	7	13	11	.....
Utah [2]	2	6	5	3	1	1	1	.....	3	.....
Vermont [2]	.....	1	2	.....	3	1	3	.....	1	.....
Virginia [2]	1	.....	.....	2	2	3	1	4	7	4
Washington [2]	16	17	10	5	8	9	7	12	11	15
West Virginia [2]	5	3	5	1	5	7	9	4	7	.....
Wisconsin	7	12	19	14	15	17	13	9	6	.....
Wyoming	.....	1	.....	.....	.....	2	.....	.....	1	.....

[1] From U. S. Public Health Service, National Office of Vital Statistics, and State Statistics.
[2] States had enacted laws, as of October 1, 1945, regulating the sale of barbiturates.
[3] States were exercising control of sale of barbiturates by regulation as of October 1, 1945.

DEATHS FROM BARBITURATES

The increase in deaths caused by barbiturates is evident in the latest figures for the individual states. The available figures from 1936 to 1945, inclusive, are given in Table II. A majority of the states, especially those with large rural populations, show little change in the yearly numbers of deaths caused by barbiturates from 1936 through 1944. Most of the states with large urban populations show increasing numbers of deaths during this period. The available figures for 1945 show tremendous increases in the number of deaths in eight of the fourteen states represented, while only one state shows a definite decrease. The emotion-stirring years of 1939–1941 show the expected high figures, but the deaths in 1945 indicate new all-time highs in many states. The increasing number of deaths caused by barbiturates appears to be about the same for states with and without legal controls for the distribution of barbiturates. It is evident that the control measures in effect today are not succeeding in halting the upward trend in deaths caused by barbiturates.

NONFATAL BARBITURATE POISONINGS

The only reliable source of data on nonfatal poisonings is the hospital record or case history. Data obtained from hospitals by Hambourger for the period 1928 to 1937, inclusive, and by the author for the period 1940 to 1945, inclusive, are recorded in Table III. In the present study more emphasis was placed on obtaining data from enough hospitals in one city (Baltimore) to make certain that patients from all social and economic levels would be included. The data indicate that the barbiturate danger is prevalent among all classes of the population.

Where data are available from both the 1928–1937 and 1940–1945 periods it will be noted that the percentage ratio of barbiturate poisonings to total admissions has almost doubled, while the percentage ratio of barbiturate poisonings to all drug poisoning cases has increased tremendously. The data from Michael Reese Hospital and Walter Reed General Hospital do not follow the trend with respect to the percentage ratio of barbiturate poisonings to total admissions, but the percentage ratio of barbiturate poisonings to all drug poisonings remained the same in the first hospital while the figure of 42.9 percent for the second hospital shows that almost half its poisoning cases were caused by barbiturates. The data from Johns Hopkins Hospital show that the percentage ratio of barbiturate poisonings to total poisonings for the 1940–1945 period is lower than for the 1936–1937 period. A yearly break-down shows that this ratio increased each year from a low of 0.5 percent in 1940 to a high of 21.2 percent in 1945.

TABLE III.—*Acute poisoning by barbiturates*

Hospital	1928–1937, inclusive					1940–1945, inclusive				
	Hospital admissions, all causes (A)	Poisoning cases except CO and alc. (P)	Barbiturate poisoning (B)	Percentage of all poisoning cases, $\frac{B}{P}100$	Percentage of all admissions, $\frac{B}{A}100$	Hospital admissions, all causes (A)	Poisoning cases except CO and alc. (P)	Barbiturate poisoning (B)	Percentage of all poisoning cases, $\frac{B}{P}100$	Percentage of all admissions, $\frac{B}{A}100$
Boston City	331,481	2,214	391	17.7	0.118	[1] 163,469	950	271	28.5	0.166
Peter Bent Brigham, Boston	43,885	214	26	12.1	0.059	.....	.....	.....	.....	.....
Cleveland City	129,983	.....	60	.....	0.046	74,709	311	92	29.6	0.123
University Clinics, Chicago	[2] 63,076	117	18	15.4	0.028	40,339	55	15	27.3	0.037
University Hospitals, Cleveland	91,703	245	23	9.4	0.025	.....	.....	.....	.....	.....
St. Mary's, St. Louis	75,024	99	18	18.2	0.024	52,516	110	18	16.4	0.034
Michael Reese, Chicago	142,067	169	34	20.1	0.024	102,026	40	8	20.0	0.008
Presbyterian, New York	135,352	444	22	5.0	0.016	139,499	193	45	23.3	0.032
Johns Hopkins, Baltimore	[3] 32,703	27	5	18.5	0.015	118,407	824	27	3.3	0.023
Baylor University, Dallas, Texas	109,138	293	15	5.1	0.014	111,533	103	50	48.5	0.045
Baltimore City	[4] 25,356	114	3	2.6	0.012	37,191	235	19	8.1	0.051
Walter Reed General, Washington, D. C.	74,067	.....	7	.....	0.009	[5] 35,755	7	3	42.9	0.008
Union Memorial, Baltimore	.....	.....	.....	.....	.....	32,965	90	29	32.2	0.089
University Hospital, Baltimore	.....	.....	.....	.....	.....	69,287	123	22	17.9	0.032
Sinai, Baltimore	.....	.....	.....	.....	.....	39,331	110	12	10.9	0.031
Mercy Hospital	.....	.....	.....	.....	.....	43,548	77	8	10.3	0.018

[1] 1940–1943, inclusive.
[2] 1927–1938, inclusive.
[3] 1936–1937 only.
[4] 1935–1937, inclusive.
[5] 1943–1944 only.

Applying the percentage ratios of barbiturate poisonings to total admissions obtained for the 1940–1945 period (excluding Boston City Hospital) to the same number of admissions for each corresponding hospital as reported in the earlier survey, we obtain the following figures: total admissions, 786,766; barbiturate poisonings for earlier period, 182; barbiturate poisonings for later period, 339. This gives a composite percentage ratio of 0.023 for the 1928–1937 period as compared with a composite percentage ratio of 0.043 for the 1940–1945 period, or an increase of over 86 percent in the number of barbiturate poisoning cases.

In the case of Boston City Hospital for which we have data through 1943 only, the percentage ratio of 0.118 for the 1928–1937 period compared with that of 0.166 for the 1940–1943 period shows a 41-percent increase in the frequency of occurrence of barbiturate poisoning cases.

Applying the percentage ratios of barbiturate poisonings to all drug-poisoning cases (except alcohol and carbon monoxide) obtained for the 1940–1945 period (excluding Boston City Hospital) to the same number of total drug-poisoning cases for each corresponding hospital as reported in the earlier survey, we obtain the following figures: total drug-poisoning cases, 1,263; barbiturate poisonings for earlier period, 115; barbiturate poisonings for later period, 337. This gives a composite percentage ratio of 9.1 for the 1928–1937 period as compared with 26.7 for the 1940–1945 period, or an increase of over 193 percent in the fre-

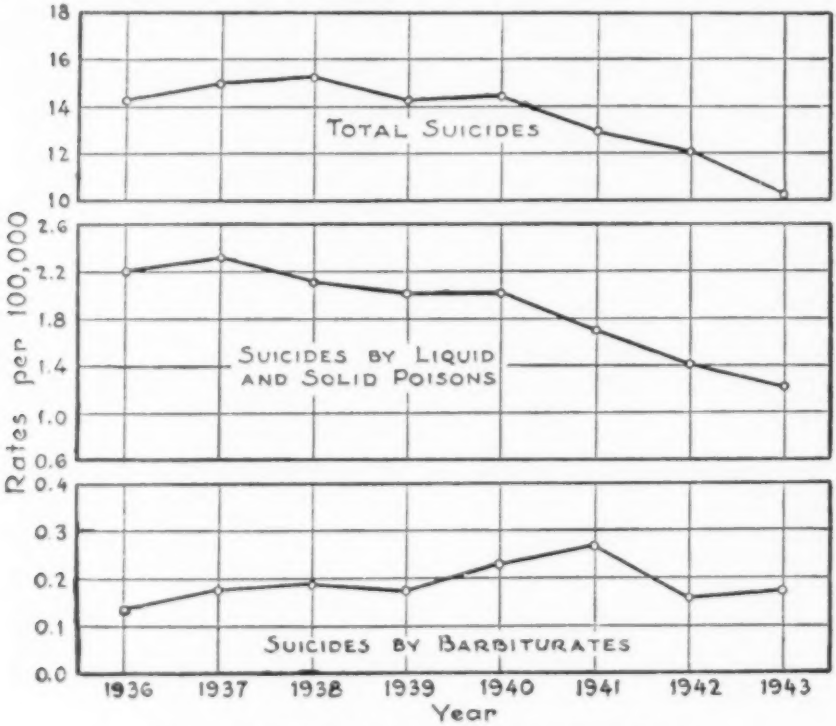

FIG. 1.—Suicides—United States (Bureau of Census Data)

quency of barbiturate poisonings compared to all drug poisonings. Boston City Hospital shows a percentage ratio of 17.7 for the 1928–1937 period compared with that of 28.5 for the 1940–1943 period, or a 61-percent increase in the frequency of occurrence of barbiturate-poisoning cases.

The hospital data for the 1928–1937 period show that in ten hospitals with total admissions of 1,049,785, barbiturates were responsible for one-seventh of the acute poisonings due to all drugs except alcohol and carbon monoxide. The present survey shows that in fourteen hospitals with total admissions of 1,060,275, barbiturates were responsible for one-fifth of the acute poisonings due to all drugs except alcohol and carbon monoxide.

The conditions existing in the period up to 1937 were responsible for the introduction of a resolution at the June 1937 meeting of the American Medical Association on the "Evils from Promiscuous Use of Barbituric Acid and Derivative Drugs." The resolution included the following statement: "The evils of these drugs include habit formations, toxic cumulative action, their substitution for alcoholic beverages for drunken episodes, their use for successful as well as unsuccessful suicidal attempts, their improper use being a recognized causative

factor in many motor accidents and their improper use being a recognized etiologic factor in some criminal assaults. . . ." If the conditions responsible for the position taken by the A. M. A. in 1937 are reflected in the hospital survey made by Doctor Hambourger at the invitation of the A. M. A. Council on Pharmacy and Chemistry, then certainly a much more alarming condition is indicated by the present study.

Data obtained from the publications of the United States Department of Commerce, Bureau of the Census, indicate that while the trend for the United States is lower in suicides and fatal poisonings by all solid and liquid poisons, suicides and fatal poisonings by barbiturates are increasing. This is shown in Figures 1 and 2.

These data emphasize the increase in the number of barbiturate poisonings. About the middle of 1945 the Chief Medical Examiner of New York City reported an increase in the number of deaths in the city from consumption of sleeping tablets from a normal (?) of 40 per year to 47 in the last three months. Early in 1946 the New York City hospitals were reporting a death caused by barbiturates every thirty-six hours. Is there any wonder that New York City already has enacted more stringent legislation for the control of these drugs? The use of barbiturates in the United States has increased at such a rate that whereas in 1936 two hundred thirty thousand pounds were produced, in 1945 the production of barbiturates was five hundred and fifty thousand pounds.

Many lay "pharmacologists" have discovered that if barbiturates are taken with alcohol they can obtain effects ranging from a "cheap drunk" to a "heroin reaction." In the New York Harlem section the effect is called Wild Geronimo. These people refer to the barbiturates as goof pills, yellow jackets, red dogs, or red birds, depending upon the color of the capsules, and the combination with beer or liquor is called a bolt and a jolt.

The use of barbiturates by criminals is considered to be of secondary concern since these people make up a small fraction of the population. Of greater concern are the thousands of people who regard these compounds as harmless and gradually use them to excess. What is becoming the classic example was discovered not long ago in Waco, Texas. A kindergarten teacher noticed the unusual behavior of a pair of twins. She found that one of them had a box of pills which the child said her father had given to her. Investigation showed that the father, a factory worker, had been put on the night shift. Unable to adjust himself to the new hours he became addicted to sleeping pills. He was still disturbed by the noise of the twins playing, so he started giving them pills too. The children were taking them regularly. This story will be retold many times before adequate control of barbiturates is finally established.

Many accidental cases of barbiturate intoxication are discovered and treated before death takes its toll. Frequently these individuals tell of having taken the usual dose of the drug which did not bring sleep. Then, in the mentally befuddled state induced by the barbiturate, they took more of the drug. How much more they did not know. Barbiturates have now achieved the questionable honor of being chosen as the chemical instrument of suicide, second only to carbon monoxide.

Where can people get more barbiturates than they should have? From physicians; from pharmacists (with prescriptions, and in some cases without prescriptions); from some nurses; from wholesale drug houses; from jobbers; and from individuals who "know the ropes." A strong campaign to educate all physicians, pharmacists, and nurses to the dangers of these drugs should be initiated immediately by the American Medical Association and the American Pharmaceutical Association. The public should be made aware of the dangers accompanying misuse of the barbiturates. Prominent newspaper ballyhoo everytime a famous or notorious individual succumbs to sleeping pills should not dramatize the case with which the victim passed away.

I believe, that if all the unfortunate cases of barbiturate addiction and intoxication due to barbiturates obtained from physicians and pharamacists could be eliminated, the tragic picture presented today would be only very slightly bettered. Without the knowledge or intent of most manufacturers, wholesalers, dealers, and jobbers, most of the barbiturates that are illegitimately and harmfully used get into the hands of the users through nonprofessional channels.

BARBITURATE CONTROL NEEDED

There can be no doubt that uncontrolled traffic in barbiturates is a growing menace to the public health. Responsible authorities have pointed with alarm and have called for rigid controls of this group of drugs. The leaders of the

medical and pharmaceutical groups have responded as they have in the past and are conscientiously striving to aid in the formulation of legal safeguards to keep the growing monster under control.

Pharmacists should not depend entirely upon those seemingly untiring giants in the field of pharmaceutical advancement, Dr. Robert P. Fischelis, Dr. R. L. Swain, and the other members of the group working on uniform laws affecting pharmacy and medicine. They cannot be expected to achieve results without the active aid and cooperation of the rank and file of the organizations they represent. When A. L. I. Winne of the A. Ph. A. Committee on Legislation presented a plan for a uniform State law for the control of barbiturates to the House of Delegates of the American Pharmaceutical Association, the most that could be accomplished at that time was a recorded agreement in principle to a uniform State law. More concrete results must be achieved soon or the interested public health groups will find that they are fighting a losing battle against complete government

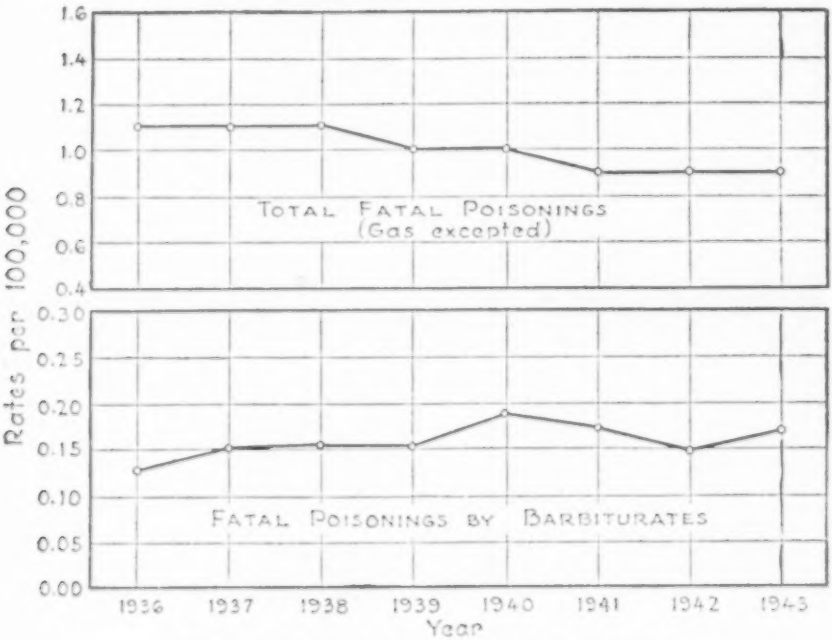

Fig. 2.—Fatal Poisonings (Bureau of Census Data)

control. The American Medical Association is now in a position where they are fighting to preserve as much professional freedom as possible in the face of the pressure by certain groups to push through the Congress the modified Wagner-Murray-Dingell bills (S. 1606-H. R. 4730). They still tend to dismiss possible Federal control of barbiturates by saying that the government authorities are not inclined to include barbiturates under the Federal narcotic act. Indeed, Dr. Paul Dunbar, U. S. Commissioner of Foods and Drugs, in discussing Federal control over the distribution of barbiturates and other sleep-producing drugs, stated, "A Federal law would be too complicated and drastic. Uniform State laws would be more satisfactory" (5). Dr. Dunbar's opinion does not mean that a Federal statute regulating barbiturates cannot be passed. Not all Federal and State enforcement officers agree with Mr. Dunbar. A bill (H. R. 6178) was introduced in the Seventy-ninth Congress by Representative Edith Rogers, of Massachusetts, that would designate barbiturates as narcotic drugs and place them under all the provisions now effective for the handling of narcotics. This is the first attempt. It will not be the last. It is not surprising that a congressional representative from Massachusetts should be sufficiently interested to do something about the barbiturate situation. Table II reveals that the total deaths caused by barbiturates in Massachusetts in 1945 are 91 percent higher than the number occurring in 1944. Table III shows that the Boston City Hospital, which

has a very large number of admissions, had the highest percentage ratio of barbiturate poisonings to total admissions of any of the listed hospitals. However, it is surprising that the lady's home state, as of October 1, 1945, had not enacted legislation seeking to control barbiturate distribution. Nevertheless, the fact remains that the conditions that have created the demand for such legislation are not improving, as a glance at the data clearly shows.

If physicians and pharmacists would avoid Federal control, let them get together on uniform state legislation and do it quickly. Dr. Fischelis' comprehensive review and analysis of the laws pertaining to the control of the distribution of barbiturates, in force in thirty-two states, two possessions, and the District of Columbia as of October 1, 1945, appeared recently (6). This clear picture of the present laws should lend itself to the framing of effective legislation for the control of barbiturate manufacture and distribution. Dr. Fischelis and the members of the A. Ph. A. Committee on Legislation have done their part. The points of greatest disagreement as to the wording of a uniform state law seem to center around the renewals of prescriptions and the question of record keeping. Why not utilize the splendid efforts of the AMERICAN PHARMACEUTICAL ASSOCIATION Committee on Legislation up to that point? The individual states can phrase the controversial sections as they see fit. There is no doubt that the phraseology applying to the manufacture and distribution of barbiturates until they reach the physician and pharmacist should be similar in all states. If this cannnot be done, it might as well be turned over to the Federal authorities.

The problem is here and it is growing. Something must be done to solve it and we should do it as soon as possible.

SUMMARY

1. The development and therapeutic status of the barbituric acid derivatives are reviewed. The accepted clinically valuable barbiturates are tabulated.

2. Deaths caused by barbiturates are shown to be increasing in many states, especially in those states with large urban populations. Where figures for 1945 are available, a sharp increase is indicated for many states. The state laws affecting the distribution of barbiturates that had been passed as of October 1, 1945, appear to have had little effect on the increase in mortality due to barbiturates.

3. The percentage ratio of cases of barbiturate poisonings to total admissions in the same hospitals for the 1928–1937 and 1940–1945 periods show an 86-percent increase in the frequency of occurrence of barbiturate poisonings in the 1940–1945 period.

4. The percentage ratio of barbiturate poisonings to all drug poisonings (carbon monoxide and alcohol excepted) in the same hospitals for the 1928–1937 and 1940–1945 periods show a 193-percent increase in the frequency of occurrence of barbiturate poisonings in the 1940–1945 period.

5. Barbiturates accounted for one-seventh of the total drug poisoning cases in ten hospitals with total admissions of 1,049,785 during 1928–1937. Barbiturates accounted for one-fifth of the drug poisoning cases in fourteen hospitals with total admissions of 1,060,275 during 1940–1945.

6. Available data for the United States show that while the yearly cases of suicides and fatal poisonings by all solid and liquid poisons indicate a downward trend, the yearly cases of suicides and fatal poisonings by barbiturates are increasing.

7. The growing nature of the problem is discussed and the urgent need for corrective uniform state legislation is stressed.

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Additional information was obtained from Statisticians at various State Health Departments, from Hospital Officials and Statisticians and by personal examination of records and case histories in Baltimore City hospitals.

Mr. BOGGS. The next witness is the Honorable Sidney R. Yates, a Member of Congress from Illinois.

Congressman Yates, I understand you have a representative of the Chicago Crime Commission whom you would like to testify.

STATEMENT OF HON. SIDNEY R. YATES, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. YATES. It is not the Chicago Crime Commission; it is the Crime Prevention Bureau, which is the licensing agency between the various law-enforcement agencies of the city of Chicago, all of whom work through the department of which Mrs. Higgins is director. I think there are few people in the city of Chicago who know as much about the dope situation and the narcotics situation in our city, as far as it pertains to crime, as Mrs. Higgins does.

Mr. BOGGS. We have Mrs. Higgins scheduled to testify a little beyond you. So, Mrs. Higgins, we will call you in a few minutes.

Mr. YATES. Thank you, Mr. Chairman.

I would like to state this, that Congressman O'Brien of Chicago is as much interested in the statement and in the bill which I have filed as I am, and the statement which I am making is on his behalf as well.

I should like to start my testimony today with a brief reference to the first session of a new "misery court" opened last Monday in the city of Chicago to deal specifically with the swelling problem of dope addicts. On that day 39 unhappy victims of dope rings appeared before Judge Gibson E. Gorman. One was an 18-year-old girl who had stolen a $13 dress from a department store to get money for heroin. Two high-school boys told the tragically familiar story of starting with a "marijuana kick" and progressing to stronger stuff. If time permitted, I would like to continue with a full account of each of the 39 stories of human tragedy written into the record that day, because I believe these stories must weigh heavily on our minds and hearts as we consider proper legislation for curbing this evil. But we are concerned here with some 50,000 Americans and their families who constitute the accumulating evidence of a large increase in drug addiction which has brought sudden public recognition of one of the most disturbing phenomena of American life today.

My bill, H. R. 2645, and the bill filed by Congressman Boggs and the bills filed by a number of Congressmen are designed to attack an important phase of this problem by stiffening our antinarcotic laws at a strategic point—namely, by setting stiff penalties for violation. The present law, as you know, has no minimum for a sentence and sets a maximum of 5 years for all offenders, whether or not they are repeaters. H. R. 2645 would write into law a minimum of 2 years for first offenders, of 5 years for second offenders, and of 10 years for a third or subsequent offense.

Mr. HARRISON. Are you talking about Mr. Boggs' bill?

Mr. YATES. I am talking about all of them. I think Mr. Boggs' bill is directed to the same end—that is, the stiffening of penalties for dope peddling.

Mr. HARRISON. But your bill does differ from his?

Mr. BOGGS. They are substantially the same.

Mr. YATES. They are substantially the same. They may vary as far as the penalties are concerned, but I think we are attacking the same problem.

It sets a maximum of 5 years for first offenders, of 10 years for the second offense, and of 20 years for the third and subsequent offenses. In each case the offender is also subject to a fine of not more than

$2,000. Finally, it provides that sentences for a second or subsequent offense cannot be suspended and that probation cannot be granted until the minimum for that offense has been served. By such a schedule of progressively stiffer sentences and by specific limitations on suspension or probation, we can help to quarantine one of the most sinister and relentless enemies of mankind—the curse of dope addiction.

If we are to meet this problem realistically, we must recognize, first of all, that it combines the threat to society of an organized crime syndicate with a type of addiction which has the characteristics of an infectious disease leading to a slow death. A drug addict is something more than a criminal. Because he is enslaved to dope, he is, in a sense, also a "disease" spreader. Experience shows that, in order to satisfy his own cravings—and this has become increasingly true—he often becomes a dope peddler willing to inoculate others, free of charge if necessary, until they themselves become addict customers. Sometimes victims are offered free samples, cut rates, or credit in the early stages. Most of the Nation's 50,000 dope addicts are labeled as the "criminal type" who will steal and murder to raise the $30 to $120 a week they require to keep themselves supplied with the drug. Because their moral fiber has been destroyed, victims of dope, like victims of smallpox, must be quarantined for their own protection and for the protection of the rest of society.

In that respect, I would like to state I have filed a companion bill to the one we are considering here today which would compel drug victims to become hospitalized on a compulsory basis until they are cured, rather than limiting their cure to voluntary steps which they undertake now and which frequently result in their leaving the hospitals before a cure is completely effected.

It is abundantly clear from the record that short sentences are not effective either as a punishment or as a deterrent. On their release from jail, dope addicts are inevitably drawn back into the toils of the traffic of which they are victims. Harry J. Anslinger, Commissioner of the Bureau of Narcotics of the Treasury Department, pointed to this weakness in our present laws in his testimony before the Kefauver committee on March 27, 1951, in which he said:

> The main reason for narcotic trafficking and consequent addiction flourishes in certain districts is because these peddlers are lightly dealt with by the courts. In districts where they get heavy sentences, you do not find much trafficking. We make 5,000 arrests in a year, and by the time we process the cases and start on another campaign the first violators are back in business. Nearly all these peddlers have had two or three convictions.

My bill incorporates Commissioner Anslinger's recommendation that they get a minimum of 5 years for the second offense and 10 years for the third. It is in line with the recommendations of both the League of Nations and the United Nations for more severe sentences as one of the most effective methods of suppressing the drug traffic.

Now, to what extent have we failed to use heavy sentences as a means of quarantining this growing menace to public health and morals? First of all, the present law sets a maximum for the sentence of 5 years, and probation and suspension frequently shorten an already too short sentence. The average sentence for all violators of narcotic and marijuana laws during the last fiscal year (1950) was 23.1 months, not counting those placed on probation. Of the 1,481 persons com-

mitted to Federal institutions during 1950 with a sentence of more than 1 year, 63.6 percent were repeaters and approximately 30 percent had 3 or more prior commitments.

Figures released by the Administrative Office of the United States courts for the previous fiscal year (1949) show that of 1,187 persons sentenced to imprisonment for violation of the Federal narcotic laws, more than two-thirds received sentences of less than 2 years. Of this number, 4 got a sentence of under 1 month; 120 were sentenced from 1 month to 6 months; 196 were sentenced from 6 months to 1 year and 1 day; and 262 were sentenced over 1 year and 1 day to 2 years. Only 43 of these sentences were for 5 years or over.

In my own city of Chicago in 1949 the average sentence for 53 persons committed—out of 83 convictions—was 10.9 months. In 1950, the number of commitments more than tripled—to a total of 171—and the average sentence was 17.8 months.

Parenthetically, I would like to state I have just picked out a clipping from the Chicago Tribune of April 3 on this point which says that the safe at the University of Illinois Hospital had been broken into and two cardboard cartons had been stolen in which narcotics of various types, valued at between $5,000 and $10,000, had been stolen. This dope, according to the newspaper report, is worth $40,000 to $50,000 in the hands of dope peddlers, and that is probably where it will find its way eventually.

Because I am first of all concerned with a problem which is especially acute in my own city, I urge your earnest consideration of H. R. 2645. Dr. Andrew C. Ivy, our beloved public citizen, one of the great citizens of the city of Chicago, and vice president of the University of Illinois in charge of Chicago professional colleges, has estimated that there are from 5,000 to 10,000 dope addicts in Chicago. Because they are willing to steal to keep themselves supplied, he estimates that they cost the citizens of Chicago a minimum of $2,000 a day or $60 million a year. Clearly, he believes—

> It is less expensive to incarcerate these dope fiends than it is to allow them liberty.

And out of his years of experience he says pointedly:

> Dope fiends and peddlers are arrested, when caught, and sent to the house of correction, county jail, and fined heavily. This amounts to little more than a sobering-up period. In the large majority of cases, the dope fiend, on being released, begins a search for a shot and goes back on the stuff again. This obviously breeds indifference among police; if the public is indifferent you can't expect the police to be otherwise. Law-enforcing agencies can enforce the law only to the extent the public wants the law to be enforced—no more and no less.

It is Dr. Ivy's considered conviction that all addicts must be found and incarcerated not only as a means of cutting off the source of dope and reducing crime caused by dope, but because any educational programs as to its evils is hampered so long as—

> dope fiends [are] at liberty to visit the parties of high-school students, night clubs, taverns, and dance halls and seduce others into taking dope.

I am concerned with the urgent need for stiffer penalties in the name of one David A. Deitch, a 17-year-old high-school junior whose story, as told in the Chicago Daily News for Friday, March 30, is a tragic commentary on the whole problem. Slumped in a chair in the Shakespeare Avenue Police Station at 3 a. m. one morning last week, he

traced his addiction back to the fall of 1948 when he smoked his first marijuana cigarette. Here is his tragedy in his own words:

> I was very depressed at this time. I met a fellow at Senn High School by the name of Hank, a white fellow. He started talking to me about music. * * * Then the conversation turned to marijuana and he offered me a marijuana cigarette.

A week later, Hank supplied him with another one, and the habit was established. He tried to stop a few months later. Then, in February 1949, he went to a jam session at Wilson and Clarendon Avenues, where he met a colored musician.

> I told him that I used marijuana,

said David Deitch,

> and he suggested that I try heroin * * * and he fixed up a dose of heroin and gave it to me with his compliments, and I snorted [inhaled] it. He told me of a connection [dope peddler], Bill. * * * I bought a capsule from him for $2.

During the summer of 1950, David Deitch bought heroin once a week or once a month and began using the needle. Then he tried to stop again. But in November 1950 he made another connection. By March 1951 he was using heroin "every other day or only once a week." On the night of March 30, he was arrested with two other youths on information furnished by the worried mother of one of them. One of the youths, 17, was too dazed from heroin to make any statement at all. The other, just 16 years old, was turned over to juvenile authorities. Acting on the information furnished to them by David Deitch, Chicago police arrested four persons—two men and two women—who had furnished the dope.

I am concerned and my bill, H. R. 2645, is concerned with making sure that the men and women who furnished David Deitch and his friends with dope be properly quarantined from the rest of society.

The citizens of Chicago are becoming aroused by the dope menace. As I have already noted, a new branch of the municipal court opened on Monday, April 2, for the exclusive purpose of handling narcotics cases. One result will be to use court records to build up a precise story of the Chicago dope traffic. Another will be to emphasize the importance of providing better facilities for treating addicts while they are incarcerated.

Chicago is moving ahead on other fronts in dealing with this problem. I have been informed by Dr. Lois Higgins, director of Chicago's Crime Prevention Bureau, that law-enforcement activities have been stepped up during the last year with the result that 627 arrests were made in January of this year, 572 in February, and 539 for the first 20 days of March. During the calendar year 1950, a total of 4,437 dope addicts were arrested, of whom 1,017 were minors and 89 were juveniles. On February 10, 1951, 12 additional teams of detectives were assigned to this field.

Meanwhile, the Crime Prevention Council—which includes key men in city, county, and State law-enforcement agencies, and the United States district attorney representing the Federal Government—is active in other areas. It was on their recommendation that the special municipal court was established. The Cook County physicians and the Cook County Bar Associations are cooperating with

the council, with educators, and with social workers in plans to establish one or more clinics to assist in after-care treatment of people following hospitalization. They are organizing activities of a preventive nature having to do with information, early discovery, and counseling of parents. The managers and administrative aides of the Chicago housing projects have been interested in cooperating with the council. A plan is under way to take over the Bridewell farm, which is a part of our county jail, with a 600-bed capacity, to supply badly needed facilities for treating addicts. In Springfield, the legislature is considering a State narcotic bill which sets a minimum sentence of 2 years for all offenses and a maximum of 5 years (or $5,000) for the first offense, and of life (or $10,000) for subsequent offenses. If the violation involves persons under 21 years of age, the penitentiary sentence can be for a term of from 2 years to life.

Finally, I am concerned that the Federal Government sets an example by providing stiffer penalties because our problem in Chicago is shared by many other cities. The problem of dope addiction is Nation-wide. Total arrests for 1950 were 5,522, as compared with 5,273 in 1949. One of the most alarming aspects of the current situation is the fact that addiction is shown to be increasing most rapidly in teen-age groups. A 1950 report of the Chicago Juvenile Protection Association states:

> The sale of dope to minors and their addiction * * * now presents one of the most menacing and destructive conditions this association has ever faced.

In his annual message for the fiscal year of 1950, William N. Erickson, president of the Board of Commissioners of Cook County, called attention to the alarming significance of the increased number of delinquent complaints referred to the family court concerning the possession and use of narcotics among children. A study of 41 cases reported for the period January 1 through May 31, 1950, shows that the youngest child was 12 years old and 30 were between 15 and 16. By the end of the year, 93 children had been called to the attention of this court as users or being in possession of dope.

A California State narcotics official estimates that 15 out of every 100 teen-agers arrested there in narcotics cases are addicted to one or more drugs. Detroit authorities and Federal narcotics officials report an alarming increase in teen-age addiction. New Orleans is having trouble. So are Buffalo and New York City. The most terrifying thing about the drug disease among the youth to parents and citizens who are worried about its rapid spread is that it happens to normal and average children—not only to subnormal children but to normal and average children as well. Equally frightening is the lack of facilities for treating young addicts and the impermanence of most cures.

The United States Public Health Service hospital for drug addiction in Lexington, Ky., reported last November that, in the first 10 months of 1950, it had received 203 addicts under 20 years of age. In 1948 it received only 13. At the other Federal hospital equipped to treat dope addicts under the care of the Public Health Service, several hundred veterans are having to give up their hospital beds because of the increase in marijuana smoking among teen-agers. In the last 4 months of 1950, 700 patients under 21 were admitted to the two Federal hospitals at Fort Worth and Lexington.

I happened to talk to Congressman Fogarty, of Rhode Island, who is chairman of the Subcommittee on Labor and Federal Security Appropriations, yesterday, and he told me the hospital at Fort Worth, which has been housing 500 veteran cases—it is a 1,000-bed hospital—is now going to be turned over completely to drug cures, and the 500 veterans will be transferred to other hospitals.

Some concerned people believe that illegal syndicates are behind a concerted, well-organized plan to make long-range profits by turning adventurous young folk into life-long junkies. It seems clear that this is by no means the only contributing factor to the increase in teen-age addiction. But it is probably one reason for the tremendous profits to the dope syndicates which are indicated in reports of Federal seizures by customs officials valued at retail in the millions. Indeed, one major reason why we need more stringent laws immediately is the fact that more dope seems to be coming into the country.

Dope smugglers are learning new tricks for sneaking in more outlawed drugs. They are using airplanes as well as jeeps to cover thousands of miles and to jump legal obstacles between the opium poppy—the source of heorin, morphine, and opium—and the dope addict. International air service is helping to speed delivery of drugs from the Near East and from Mexico. Because dope can be carried in small packages, it can be ingeniously concealed by smugglers. A package smaller than a pack of cigarettes and weighing about an ounce is worth over $500 when it crosses the border. When cut with other substances, it may bring as much as $4,000, for at the point of sale to the average addict, who must pay from $1.50 up for each capsule, there is only as much pure heroin or morphine as would cling to a paper match dipped into it.

Because of steady demand and high profits, some of this country's most notorious criminals are linked with the drug traffic. Syndicates headed by "Waxey" Gordon, "Legs" Diamond, and "Lucky" Luciano were wholesalers of drugs. On March 15, a Federal agent told the Kefauver committee that heroin smuggling from Italy had increased markedly since 1947—the year after Luciano was deported to that country. Drugs smuggled into New York and New Orleans are distributed by car or plane to mobs in inland cities who, in turn, sell it to the peddlers controlled by terrorism because of their own addiction. The United Nations Commission on Narcotic Drugs is working toward curtailment of dope-running activities, partly by curbing production of the opium poppy, Indian hemp plant, and coca plant except under close supervision, but chiefly by encouraging each government to tighten its own dope-control laws.

My bill will not, of course, solve all of the problems connected with this vicious and crime-ridden traffic. The flow of these poisons must be stopped as well by education, by medical and psychiatric treatment, and by correction of neighborhood conditions that have led many people to seek release in the oblivion of dope. There is genuine significance, for example, in the fact that addicts come preponderantly from the lowest-income families. Increase of our knowledge of the underlying emotional and economic lacks which are symptomatic will help. So will improved methods of treatment and better facilities for treatment. Perhaps we may look forward to the day when the period of incarceration will be one during which the victim of dope can be receiving treatment until he is both cured of the habit itself and of the

emotional instability which led him to seek escape in the first place. Meanwhile, however, a first step is to crack down on penalties provided for illegal possession or selling of dope. This must be accomplished at a State and local level as well as at the Federal level. But the time has arrived when Congress must act effectively for its own jurisdiction and to set a goal for other jurisdictions.

District Attorney Frank S. Hogan, of New York City, has identified the drug addict as a "Typhoid Mary" who should be subjected to compulsory quarantine until cured. He cites the case of a heroin addict of more than 20 years' standing who was recently convicted by his office. Between jail sentences he made a subsistence as a drug seller and a thief. At his trial, one of the defense witnesses which he called revealed a closely similar history, under cross-examination, including a long career of thievery brought on by the demands of weekly drug expenditures of from $75 to $120.

The bill we are considering is designed to quarantine such victims from the rest of society upon whom—because of their own unhappy lot—they must prey. It is designed to help increase the incentive for picking up the peddlers infesting street corners, where drug addiction starts. Law officers have been discouraged by the fact that arrests frequently brought a short sentence after which the addict-peddler returned to the poor environments, the familiar sources of drug supplies, and the old cycle of crime-and-satisfaction typical of the habit. Stiffer and more effective penalties will increase their alertness to make arrests.

I urge your earnest consideration of H. R. 2645, as a means of helping to curb an illicit traffic which is as deadly and as dangerous as an atomic bomb. Indeed, the analogy between the control of narcotic drugs and the atomic energy is striking. In both cases the problem is one of restricting the use of a commodity which has both beneficent and devastating possibilities. Properly controlled, both are important to advances in medical science. In each case the control must be of the commodity itself, from raw material to ultimate use, and of such nature that legitimate uses can be supplied. But in both cases, diversion and illicit purposes constitute a threat to the common welfare and to our strength as a nation. I believe we must be concerned with these tragic victims of the disease of dope addiction, and I hope this subcommittee and the full committee will approve this bill to establish stiff minimums on sentences for victims of dope, progressively stiffer sentences for repeaters, and tighter limits on suspension and probationary procedures.

Mr. Chairman, I want to thank the committee very much for giving me the opportunity of testifying here this morning.

Mr. BOGGS. You made a very fine statement, Mr. Yates. I assume that you have seen some of the figures relative to this juvenile problem. For instance, I understand in the Federal institutions 4 or 5 years ago there were less than three addicts treated under the age of 21. I understand that last year there were something like 750 treated under the age of 21.

Mr. YATES. That is correct. There is no question about the fact that this pernicious traffic is spreading more and more among the teen-agers. Once they do become the victims, it remains with them all during their lives, and we never have a chance to cure it. That is why this bill is so important.

Mr. BOGGS. What, fundamentally, is responsible for this great increase of the habit among juveniles? I notice that you said in your statement that was one of your real problems in Chicago.

Mr. YATES. I think that is true. This bill would seek to cure one of the primary causes set forth; namely, the fact there are insufficient sentences being accorded to dope peddlers for having trafficked in the dope.

In that connection, I would like to cite the case given to me by one of the agents of the Treasury Department, who pointed out that in the city of Minneapolis some years ago the dope traffic was broken up, after a period of according too short sentences to dope peddlers, by giving a very stiff sentence to the chief dope peddlers.

As a result of that the drug traffic in Minneapolis has been minimized.

Further than that, I think the social conditions that are prevalent in many of the larger cities are responsible for the increasing addiction of the teen-agers. I know that in Chicago we have acute housing problems which would bring about a destruction of the morals of some of the community.

In addition to that, there is the desire for a thrill which has grown up from the last war as a result of the tension in which we lived.

Therefore, all these factors contribute to the situation.

If we can eliminate the evils of the peddler; if we can take him out of the society in which the teen-agers are associated, I think we will have done much to stop the growing increase in the habit among teen-agers.

Mr. GRANGER. Mr. Yates, you have made a very fine statement. You seem to be emphasizing equally two problems. You say that there should be longer sentences for the addict and making their hospitalization compulsory.

What do you have to suggest either as to the production or the transportation of the dope, and the source of the drugs?

Mr. YATES. I think testimony will be presented to the committee by the State Department people, who are much more familiar with that phase than I. I know that efforts are being made to curb the traffic.

I think in that connection it would be well if the Congress and the Appropriations Committee, of which I am a member, provided more appropriations for border surveillaace and protection by having additional guards at those places so that we can stop at the entry ports to this country those people who are bringing drugs into this country. We should provide additional inspection facilities of that type.

Of course, international agreements are in effect now limiting the traffic and trying to avoid it. You have your criminals who are avoiding that. I think that we have to increase the enforcement facilities available to stop the drugs from coming into this country.

Mr. GRANGER. I think that is true. Undoubtedly the stimulation of a wide market would also stimulate the ingenuity of the smugglers.

Mr. YATES. I certainly agree with that.

Mr. GRANGER. I think that you have made a very fine contribution to the committee.

Mr. JENKINS. I gather from your testimony you think this is largely a big city problem so far?

Mr. YATES. I certainly do, Mr. Jenkins. We have a free country here and our people are going from one community to another. Just like education, once they are educated into the dope addiction habit, which seems to be in the privonce of the large cities at this particular time, it may find its way into the rural communities as well.

Mr. JENKINS. The high school children in the rural sections congregate like they do in other places.

Mr. YATES. That is correct.

Mr. BOGGS. Mr. Chairman, we are very glad that you can be hwere with us because we think this is very important legislation. We hope that you will feel free to ask questions right on through the hearing.

Chairman DOUGHTON. Thank you very much.

Mr. Yates, you have made a fine presentation of the evils of this narcotic. We are very much interested in the statements that have been made here this morning.

As I understand it, you emphasized mainly, first, the apprehension of the dope peddler, and then, when he is brought to trial, if convicted, more severe penalties, is that correct?

Mr. YATES. That is correct.

Chairman DOUGHTON. Which is in greater need of remedying. Are you bringing to the bar of justice anything like a large percentage of the dope peddlers? First, you cannot do anything unless you apprehend them, and, second, little can be accomplished by way of a deterrent unless they are sufficiently punished when convicted.

How are we getting along with the problem of bringing these peddlers to the bar of justice?

Mr. YATES. They are being brought to the bar of justice. I think the statistics to which I have already testified show that they are being brought into court and are being sentenced. However, the statistics show further those who are dealing in this traffic and who are brought into court in great measure are repeaters. That has been attributable to the fact that the sentences that have been accorded have not been severe enough. At the present time, if the judges want to impose severe sentences they can do so. The law provides for it. This bill will take away, in great measure, the discretionary power which a judge has. It will compel a mandatory observance of penalties so there is bound to be a cutting down of the repeating by dope peddlers in selling their illicit product.

Mr. BOGGS. I might say that I first became interested in this legislation about a year and a half ago when I received a letter from a member of a Federal grand jury. This juror said that about 50 or 75 percent of the time of the Federal grand jury in New Orleans was being consumed by second, third, and fourth offenders; maybe more than that, of the narcotics law, so it became quite obvious, after I took it up with the Bureau, that one of the greatest difficulties in enforcement was the fact that the penalties were not severe enough. I think that the average of the sentences for those engaged in the dope traffic and the drug traffic is about 23 months. That includes, I will say, first, second, third, fourth, and fifth offenders. It will be brought out here by the representatives of the Bureau that where the penalties are stiffer, and where the courts give what is now the maximum, that the traffic is considerably lighter than it is in places where the sen-

tences are more lenient. That is what Mr. Yates is primarily driving at in his legislation.

Mr. YATES. I think that is true.

Chairman DOUGHTON. If I got Mr. Yates' testimony accurately, he called attention to the fact that the mildness of the sentences in some cases discouraged the officials from bringing these offenders to the bar of justice. They felt that it was hardly worth their time and effort when the punishment was not sufficient to accomplish any worth-while results.

Mr. YATES. That is correct. The offenders are brought to the bar of justice; as Congressman Boggs has pointed out, a short time later they are released from the penitentiaries and the policemen find that they have to pick them up again. Invariably, because of the fact that dope peddlers themselves are addicts, they will go back to the sources and will start selling right over again. Therefore, if they are put away for a much longer period of time, the possibility for a cure is greater, and the possibility of cutting down the traffic in the selling of the dope is greater also.

Mr. BOGGS. I am sure that you are bringing to the attention of the committee a very important, and I might say, a very necessary duty that somebody needs to perform in dealing with this very serious situation.

Mr. YATES. Thank you, Mr. Chairman.

Mr. HARRISON. The need for this legislation grows out of the fact that the Federal judges are not doing their duty. Is that not about the sum and substance of it?

Mr. YATES. I do not mean to criticise the Federal judges. Each individual case probably contains certain equities, but the statistics speak for themselves. These drug peddlers go right back into the traffic after they are sent away for a short period of time. The sentences have not been as severe in the past as they should be. I want to point out to you this is a problem which has seemed to descend upon us with complete suddenness. The traffic has been there, but apparently since the last war it has just come into the limelight and has become so aggravated.

Mr. HARRISON. Well, in the enforcement the Government is doing its duty?

Mr. YATES. Yes.

Mr. HARRISON. Are the prosecutors doing their duty?

Mr. YATES. Yes.

Mr. HARRISON. Are the grand juries indicting these people?

Mr. YATES. Yes, sir.

Mr. HARRISON. Is your record of convictions by petit juries adequate?

Mr. YATES. Yes, sir.

Mr. HARRISON. The penalties under the law are adequate now if imposed?

Mr. YATES. If imposed they would be.

Mr. HARRISON. But they are not being imposed?

Mr. YATES. They are not being imposed, not with the strictness that I would like to see.

Mr. HARRISON. They are not being imposed with sufficient severity to curb this traffic. Is that not correct?

Mr. YATES. In my opinion, that is true.

Mr. HARRISON. Which officials are responsible?

Mr. YATES. At the present time?

Mr. HARRISON. Yes.

Mr. YATES. I have advanced the theory this morning, Congressman, that it is the responsibility of the Congress to present a stronger bill so that we may eliminate this traffic.

Mr. HARRISON. Under existing law the judges can impose the penalties, if they want to.

Mr. YATES. Yes.

Mr. HARRISON. And you think if we pass a law that will put on a minimum sentence, in some way or other we will get the judges to start performing their duty?

Mr. YATES. I would not have worded the question the way you did, sir. I would say that it would remove the discretionary powers on the part of the judges with respect to second and third offenders.

Mr. HARRISON. In other words, the situation is so bad that the Federal judges should not be allowed to have this discretion any longer?

Mr. BOGGS. That is right.

Mr. YATES. I would not put it that way, either, sir. I am speaking here in behalf of a bill that would strengthen, or lengthen the period of incarceration for second and third offenders. I would give the Federal judges the power that they now have in dealing with the first offenders and putting them on parole if warranted by the particular circumstances of the case, but with respect to the second and third offenders, I think that the penalty should be quite severe.

Mr. HARRISON. In other words, under the bill, you propose to compel the judges to do what they ought to do now; is that not right?

Mr. YATES. With respect to second and third offenders; yes.

Mr. HARRISON. Is there any truth in the statement that I have heard that the Federal judges are very unfair to the prosecuting officials in rulings on evidence? Do you know whether or not that is true?

Mr. YATES. Mr. Harrison, a Federal judge has many more facts that come into each particular case than appears solely by the statistics.

Mr. HARRISON. We have to pass laws to do something about the way that it is being handled?

Mr. YATES. That is correct.

Mr. HARRISON. And about the source of these drugs?

Have you any comment to make about the cooperation that we are receiving from other nations in checking these drug sources?

Mr. YATES. I am afraid that I am not sufficiently qualified to speak to that at length.

Mr. HARRISON. I think yours has been an excellent presentation.

Mr. YATES. Thank you, sir.

Mr. HARRISON. It shows great industry and a sincere study and a sincere desire to do something about it. I think this committee is very much indebted to you.

Mr. BOGGS. Thank you very much.

Mrs. Higgins, we will hear from you in a few minutes.

Congressman Donovan of New York also has a bill pending, and he comes from the largest city in the Nation, where I am sure that this problem is equally grave, and we will now hear from our colleague, Congressman Donovan.

STATEMENT OF HON. JAMES G. DONOVAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. DONOVAN. Mr. Chairman and members of the committee, I am going to sail right into the question asked by Mr. Harrison with regard to what the purpose of these bills is.

Presently there are, as I understand it, five bills before the committee. Passing Mrs. Rogers' bill for the time being, I should like to point out that these four bills consist of a bill introduced by the chairman of this committee early in the session, known as H. R. 1522; a bill introduced by me, known as H. R. 2340; a bill introduced by Mr. Yates a little later in the session, known as H. R. 2645, which is identical with mine, and a later bill introduced by Mr. Boggs, the chairman.

Let me say in the beginning that I have no pride of authorship. All I am interested in is getting some legislation out and enacted into law which will take care of what I regard as the very center of this whole narcotic-traffic problem.

I should like to answer the last question asked by the gentleman about Federal judges, and I would like to answer directly. That, in my opinion, is precisely the problem—lenient sentences passed out in Federal courts on international and interstate drug traffikers who are hardened criminals and have been in the narcotics traffic and racket for years.

I have in front of me a statement prepared by the Federal Bureau of Narcotics, part of which was, as I noticed during Mr. Yates' statement, incorporated into his whole statement to the committee.

It is not a report on the bill. I will just summarize this one point right on the point of sentences. They say:

> In a compilation of figures released by the Administrative Office of the United States Courts for the fiscal year ended June 30, 1949, the following appears: 1,598 persons convicted and sentenced for violation of the Federal narcotic and marijuana laws; 1,187 were sentenced to imprisonment. Of the foregoing number 4 received a sentence under 1 month; 120 were sentenced from 1 month to 6 months; 195 were sentenced from 6 months to 1 year and 1 day; 222 were sentenced to 1 year and 1 day; 262 were sentenced over 1 year and 1 day to 2 years; 189 were sentenced from 2 to 3 years; 152 were sentenced from 3 to 5 years; 43 were sentenced to 5 years and over; 398 were placed on probation. The number placed on probation amounts to approximately 25 percent of those convicted and sentenced.
>
> In an effort to determine that more severe penalties are necessary in order to curb the violation of the narcotic and marijuana laws, it may be helpful to look at the recidivism in such violations. Of the nearly 400 convicted in 1949 (fiscal year) and placed on probation, 15 percent had prior convictions for violation of the narcotics laws. Half of those having prior convictions had two or more. One had as many as nine prior convictions.

Now, I come from the Eighteenth Congressional District of New York. It takes in the whole gamut of American civilization in New York City, the richest and the poorest, the most distinguished and the most notorious, but I can say without fear of contradiction, and if anybody contradicts me I can prove it, that some of the most important and biggest international dope peddlers in the whole world live in the upper end of my district. I claim that I know something about it; not only the interstate but the international traffic in drugs.

On this precise point it so happens that dope peddlers on the upper scale make their deals in the southern district of New York

and not in the eastern because it is a notorious fact that they will get off easier; if they are caught in Manhattan they will get off easier than if they are caught in Brooklyn. That is the problem that we are after here.

Your committee has before it these four bills. Mine was drawn in collaboration with the Narcotics Bureau of the Treasury Department. In fact, its solicitors are much more responsible for its terminology than I.

Since the committee got these four bills, both the Treasury Department and the Department of Justice were asked for opinions and both have reported to this committee.

The Department of Justice has suggested certain small clarifying amendments. I have examined those amendments, and as far as my own opinion is concerned, I endorse them in toto.

The Treasury Department, and specifically the Bureau of Narcotics, has suggested certain amendments. I have examined them, and after 25 years' experience as a lawyer, some in the business of drafting legislation, I endorse those amendments. In fact, I think the committee has before it the revised bill as proposed by the Narcotics Bureau, and I suggest that these amendments be incorporated into it.

Without examining it, I have been reliably advised that Mr. Boggs' last bill contains both amendments suggested by the Department of Justice and the Treasury Department.

I think the bill in the final form, as amended, as presently before the committee and in the files of the committee, should be reported out.

Now, I would like to make a gratuitous comment about Mrs. Rogers' bill. It has a great deal of merit, but it is strictly, in my opinion, a domestic problem of the United States.

This whole narcotics traffic of morphine and its derivatives, and marijuana, is the subject of international treaties between the Government of the United States and members of the Narcotics Drugs Control Treaty. There are several treaties.

What we ordinarily understand as narcotics—morphine, cocaine, heroin—are the subject matter of those treaties. If you try to tack on any bill something that covers barbiturates—sleeping pills, so-called sedatives—you will be interfering with the treaties we have with other nations that are members of the international control system. Personally, I think that bill belongs in the food and drug field and not in what has been traditionally known as narcotics that are the subject of international and interstate trade.

I think that is all I have to say. I would like to sit here while the experts from the Bureau of Narcotics testify. If there are some things that come up I would like permission to ask some questions.

Mr. BOGGS. We will be glad to have you sit here with the committee.

I wonder if I may ask you a few questions.

Congressman Yates gave us a pretty detailed breakdown of the situation in Chicago.

Mr. DONOVAN. That is correct.

Mr. BOGGS. By way of generalization, would you say that you have an equally serious problem in Manhattan?

Mr. DONOVAN. Worse, because New York is an international port and a bigger city.

Mr. BOGGS. Would you say that you are having, as Chicago has, a growing problem among juveniles?

Mr. DONOVAN. You can pick up a morning newspaper in New York and read about 14-year-olders being hardened addicts and 15-year-olders being hospitalized.

Let me point out something to you. If you go up to the upper end of my district——

Mr. BOGGS. You succeeded Mr. Marcantonio?

Mr. DONOVAN. Yes.

If you go into the part of the district that was called the East Harlem vest pocket district and talk to detectives who are familiar with the drug peddlers and the addicts and where they are concentrated, you will learn that the situation is so bad up there that they have ambulatory drug dispensing operations. Today it is in this house; tomorrow in that house, and if you are an addict and want to go in to get your morning shot, or your afternoon shot—as you might go into a saloon or a bar or a grill—the word passes around; well, today so-and-so will be handing out at his house, and they will go in and put their money on the line and get their hypodermic needle and are on their way. That is how bad it is in the upper end of my district.

Mr. BOGGS. What connection is there between organized crime and the dope traffic in New York?

Mr. DONOVAN. Well, it is pretty well known that the big-shot racketeers' bank rolls, if I may be permitted to use the vernacular, underwrite the operation on a big sale. It goes all the way down the line.

The control of the narcotics traffic in the city of New York in the last 20 years has shifted from one so-called underworld mob to another, but it is all tied in and it is parceled out among the big racketeers to certain key individuals who handle certain territory.

Actually, most of this heroin and morphine derivatives that come into the United States, as I have been authoritatively advised—and it has been confirmed by people who know, and as I know from my own experience— most of it comes from Italy and Turkey, or from Turkey by way of Italy, into the ports here on the west coast.

As an illustration of the result of that, on a wholesale basis it is cheaper in New York than it is on the west coast; the ports on the west coast.

Mr. BOGGS. Is it a fact that Lucky Luciano is now the principal exporter from Italy?

Mr. DONOVAN. I could not testify to that fact.

Mr. BOGGS. Any questions, Mr. Granger?

Mr. GRANGER. There are two of the Boggs bills. The Boggs bill seems to emphasize, from what I read here, the penalties on the importer.

Mr. DONOVAN. Not the importer, but the trafficker.

Mr. GRANGER. The bill starts out here by saying,

> Whoever fraudulently or knowingly imports or brings any narcotic drugs into the United States or any territory under its control or jurisdiction.

Mr. DONOVAN. Which bill are you looking at?

Mr. BOGGS. He has the last bill but is looking at the first section of it.

Mr. GRANGER. It would seem to me that the importers are not necessarily addicts.

Mr. DONOVAN. No.

Mr. GRANGER. They might not be.

Mr. DONOVAN. Not necessarily, but practically all of them have been in the traffic for years. The bill is designed to put them out of circulation. The real purpose of it is to scare them out of circulation.

If you take, for example, an offender 50 years ago, a hardened trafficker, who has been in the narcotics traffic for 25 years, and who has one, two or three convictions and has graduated up the scale so that he has become an entrepreneur, and if he is in danger of going to jail and no mercy——

Mr. BOGGS. And no probation——

Mr. DONOVAN. And no chance of getting someone to intercede for him, he is going to get away from it. That is the purpose of this bill.

Incidentally, I should like to say to the committee something that has not been touched on so far: If you ask the experts, the men who know from the Narcotics Bureau, you will find the drug traffic has even gotten into our cantonments and training camps throughout the United States. There are peddlers among our soldiers. We have had two cases in the last 2 months where they were apprehended at Mitchell Field, Long Island.

Mr. GRANGER. It would seem to me, in the first section here that deals with importers, that the penalties are not very severe.

Mr. DONOVAN. Mr. Boggs' bill says:

> Whoever fraudulently or knowingly imports or brings any narcotic drug into the United States or any territory under its control or jurisdiction, contrary to law, or receives, conceals, buys, sells, or in any manner facilitates the transportation, concealment, or sale of such narcotic drug after being imported or brought in, knowing the same to have been imported contrary to law, or conspires to commit any of such acts in violation of the laws of the United States, shall be fined not more than $2,000 and imprisoned not less two or more than five years. For a second offense, the offender shall be fined not more than $2,000 and imprisoned not less than five or more than ten years.

Then it says:

> Upon conviction——

Mr. BOGGS. Tell him what the present situation is regarding the second offender.

Mr. DONOVAN. At the present time the court has the same discretion as to a second, third, fourth, fifth, or tenth offender as it does a first offender.

Mr. BOGGS. Right.

Mr. DONOVAN. This bill takes all first offenders and throws them on the mercy of the court and prescribes limits within which that mercy may be measured, but it takes the second, third, and subsequent offenders out of the category of discretion and prescribes mandatory jail sentences; no discretion whatsoever.

Mr. GRANGER. The only thing you need for that is to find these drugs in the possession of an individual?

Mr. DONOVAN. First they have to be convicted, and then it is the duty under this bill for the district attorney to bring it to the attention of the court that the defendant, before sentence, has been convicted on a prior occasion of the same offense. If the defendant denies his identity, the bill prescribes the procedure by which the question of identity shall be determined, by jury trial, if necessary and the defendant demands it, or by the judge, if the defendant consents to it. However, if he pleads guilty to it, this bill makes it mandatory, once

that fact is determined, either by admission or proof after trial, upon the judge to sentence him to jail without any discretion.

Mr. JENKINS. What are your local laws up there, Mr. Donovan?

Mr. DONOVAN. Because of these facts that have been brought out recently, and because of the wave of addictions, the laws of the State of New York have recently been amended by this session of the legislature. But the fact of the matter is that the agents of the United States Bureau of Narcotics in New York prefer to bring their cases before the State courts. They would rather have those they apprehend tried in the State courts because they know that they are going, if they are racketeers or traffickers, under State laws to jail, but in many instances they doubt whether they will go to jail under the same facts if the case is tried before a Federal judge and jury.

Mr. JENKINS. I have read every word of this Boggs bill, and the first part indicates this applies only to imported drugs and importers, and also there is a clause by which most of the high-school boys and girls could escape.

Mr. DONOVAN. This bill is not——

Mr. JENKINS. They would not know where the drug came from. I dare say 9 out of 10 of these drug addicts do not know or care whether it comes from Turkey or Italy. They are just taking a shot of whatever it is, and from whoever passes it out. You talked about these ambulatory dispensaries in your district where they go from one house to another. An old man or an old woman in the house giving these shots would not know where they got the stuff.

Mr. DONOVAN. Let me answer your question in two ways:

First of all, this bill is not intended to make a police force of the Narcotics Bureau of the Treasury Department, whose task is to apprehend addicts. This is a two-pronged problem, addicts and traffickers. This bill is directed at traffickers. Addiction cure is a local State problem more than it is a Federal problem, but I can say, and without handing compliments to the Narcotics Bureau, that they know, even though they do not always apprehend, every principal source of drug supply in the world.

They have a list on which appears the name of practically every entrepreneur, every big-time trafficker. They know who they are. They do not have to go to the little fellow down the line.

Mr. JENKINS. Then why do they not stop it?

Mr. DONOVAN. They are doing a pretty good job. But if they take a fellow in and he goes before a court and gets a suspended sentence or gets 1 to 3 months, or a $25 fine, then he is back in circulation again.

Mr. JENKINS. Then you think that what we ought to do is to have stiffer fines and make them compulsory?

Mr. DONOVAN. That is right. That is, as to those who have the know-how, who are in the traffic; put them out of circulation.

Mr. GRANGER. Would it be a crime for a person to smoke a marijuana cigarette?

Mr. DONOVAN. Under this act?

Mr. GRANGER. Yes.

Mr. DONOVAN. No.

Mr. GRANGER. Not if you found him smoking it?

Mr. DONOVAN. I do not think so. As a practical matter, the Bureau is not interested in getting the ordinary little unfortunate addict. They are after the traffickers. That is what this bill is for.

Mr. HARRISON. Mr. Donovan, I expect to support this measure, but I am not too confident that it is going to meet the problem. I just do not know how you can, by legislation, supply some of these Federal judges with the spine that they do not have. There are a very great many fine men on the Federal bench today, but there are just too many political touts and parlor pinks utterly incapable of understanding the danger of organized crime and organized subversion. I am going to support your measure, but I think the trouble is beyond the power of the legislature to get at it.

Mr. DONOVAN. I merely say that if a second offender must go to jail, he must go to jail.

Mr. HARRISON. They will find a way around it.

Mr. BOGGS. Thank you, sir. Our next witness is Mr. George W. Cunningham, Deputy Commissioner, Bureau of Narcotics, Department of the Treasury. Mr. Cunningham, for the purpose of the record, state your name, and so forth.

STATEMENT OF GEORGE W. CUNNINGHAM, DEPUTY COMMISSIONER, BUREAU OF NARCOTICS, TREASURY DEPARTMENT

Mr. CUNNINGHAM. My name is George W. Cunningham, Deputy Commissioner, Bureau of Narcotics.

Mr. Chairman, at the outset I want to say that the Commissioner, Mr. Anslinger, asked me to express his regret that he could not be here today. He had some commitments prior to the effective date of this hearing. I might add that a part of those commitments was in preparation for the coming meeting of the Commission on Narcotic Drugs at the United Nations, which commences next Tuesday.

At the outset I want to suggest that the Bureau of Narcotics believes that the present bill under consideration which contains various amendments, H. R. 390, meets the suggestion with reference to punishment. At this point, there is a typographical error on page 3 of the bill, in line 7, that should be taken note of. The word "denied" should be "denies".

Mr. BOGGS. It is "denies"?

Mr. CUNNINGHAM. That is right. If he "denies" his identity, and so forth.

Mr. BOGGS. An "s" in place of a "d"?

Mr. CUNNINGHAM. That is right, gentlemen. I should like to point out that the Federal Bureau of Narcotics, with its limited number of agents—188 at this time for the whole country—and its limited funds, seeks to reach the source of supply, leaving for the State and local offices as much as possible the apprehension of the lesser criminals. It must also be borne in mind that the narcotics traffic today is concerned chiefly with heorin. Heroin cannot be manufactured in the United States lawfully. That means that it is smuggled in.

The drugs which are manufactured in the United States today are manufactured by registered manufacturers and such drugs are being used in the internal traffic and reaching medical addicts through the medium of prescriptions from registered physicians.

As I say, the trouble we have now is with heroin. A present we believe that the source of that heroin, in the main, is the Middle East—Italy and Turkey chiefly. A package of heroin in size is about two-

thirds the size of one of those packs of cigarettes. When brought into the country it is sold at wholesale to the top dealers for from $300 to $400—that little package. You can realize how much money is involved. A seaman may bring in maybe 3 or 4 ounces or maybe 5 ounces at a time. And you can readily realize, after remaining in port 2 or 3 days, how easy it is to smuggle things off a ship. When that heroin reaches the consumer, its price is multiplied many times depending upon the locality in which it may be sold. Necessarily it follows that the narcotics traffic is both international as well as national.

The Commissioner, as I say, is a member of the Commission on Narcotic Drugs of the United Nations. They meet once every year. This year they are meeting twice and there is presented to the various members of the Commission such information as has been obtained regarding their particular countries, the effort, of course, being directed to stop those countries from manufacturing more heroin than is needed for medicinal purposes.

The traffic in heroin in this country begins with what we call the higher-ups, the chief racketeer who, as Mr. Donovan said, may furnish the bankroll. Those men do not deal with many people. The more people with whom they deal, the more chances there are to be apprehended.

That heroin finally appears in every State in the Nation. The traffic started to go upward some 3 years ago, after the war, when smuggling started again. It has progressed rather rapidly.

I might add that last year the Bureau of Narcotics arrested sixty-one-hundred-odd people for violating the various narcotic laws. That represented an increase of—well, these are the figures. In 1949 there were 4,980 arrested. That is an increase of practically 1,200. In 1946, 2,944 were arrested. In 1947, 3,367; in 1948, 3,472; in 1949, as I said, 4,980. Then last year it jumped to 6,163. There can be no question but what there is an increase in drug addicts.

Unfortunately, it is true that there are a great many of the people under 21, which is something new. I am frank to say that I think there may be some little hysteria connected with this, but the facts themselves do not lie. I do not think there are so many school children involved. It is our view that most of these youngsters are hoodlums to start with and it is following a pattern, a wave of juvenile delinquency.

I happened to be in the narcotics service after the First World War and the same thing happened at that time. I do not think there were as many young people at that time as there are at this time, but I have kept track of it from day to day, having worked every day, from day to day, since that time.

Some of the gentlemen made some comments about the records at the hospital. That is true. That is the hospital where all the people go who are addicted after having been convicted for violation of any Federal statute; it makes no difference whether it is narcotics or bank robbery. If the person is an addict he goes to that institution, first to be relieved of his addiction and then, under arrangements that are made by the Department of Justice, he is moved, perhaps, to some other penitentiary.

In 1946 the hospital had only three people under 21. In 1950 it had 766 throughout the year. In the first 6 months of 1946 the average

age of people committed to that hospital was 37½ years. During the same 6 months period in the year 1950, 4 years later, the average age dropped to 26.7 years. Those are facts supplied by the hospitals, but verified and corroborated by officers out in the field.

Much has been said about sentences. I have no fault to find with the Federal judiciary. After 32 years in the service I have grown up with a lot of Federal judges who were assistants when I was a young fellow. A lot of them now are on the courts of appeals. They are a fine body of men. But the fact remains that the law does not require them to sentence anybody except from nothing to 5 years. Probation is applied where they deem the facts justify it.

I would say in contrast to that, in my experience, that in those areas where long sentences have been meted out, those areas are rather free of drug peddling. I might cite Memphis, Tenn., in which I participated 30 years ago; Louisville, Ky., in which I participated personally; and, as the gentleman said, Minneapolis. They do not go to those places. The word goes out through the penitentiaries, stay away from Memphis; stay away from Louisville; stay away from Minneapolis.

Those are facts. I do not know what I would do if I were a judge. I do not want to be critical, but I am trying to speak frankly and I speak without offense. But the fact remains.

To give you gentlemen some idea about drug addiction, these gentlemen, Mr. Yates and Mr. Donovan, have talked with you a great deal about law. Mr. Yates did give you the figures with reference to Chicago.

Now, in New York, in the southern district of New York, in 1948—the southern district is in Manhattan—246 were committed, 67 were placed on probation. The average sentence was 13.4 months.

In the year 1949——

Mr. BOGGS. May I interrupt you there? Does that include first, second, and third offenders?

Mr. CUNNINGHAM. Everybody. In 1949 169 were committed.

Mr. HARRISON. What was the first year that you gave figures for?

Mr. CUNNINGHAM. 1948.

Mr. BOGGS. This is in Manhattan?

Mr. CUNNINGHAM. Manhattan, the southern district of New York. In 1949 169 were committed. Eighty-three were put on probation. The average sentence exclusive of that probation was 17.4 months.

In 1950, 138 were committed and 55 were placed on probation. The average sentence for those who were committed was 17.1 months.

In 1928, 1929, and 1930 I had charge of the New York district. There were dope peddlers in Brooklyn, which is the eastern judicial district, but uniformly those dope peddlers would not deal in Brooklyn. They would come over to Manhattan. The judges at that time in Brooklyn, one of whom I understand is still alive—meted out strong, long sentences. Ten years was common. In Manhattan it was consistent with what it is at this time. And that condition maintains in New York at the present time. They do not do business in Brooklyn. They may live in Brooklyn, but the deals are made in Manhattan where prosecution would lie in the event they were caught.

Mr. Donovan suggested that a great many of these people live in his district, and that is quite true. A while ago he named some names that I did not know he knew about. I certainly think he gets around.

It is our opinion that narcotics, the majority of the narcotics which are smuggled into the United States, are funneled through the port of New York. That is easily understood when you realize that it is the largest port. I cannot overlook your city of New Orleans, sir, because some of it comes into New Orleans; not all of it. At times we have found that narcotics were peddled in the city of New Orleans that came from the city of New York. We find now that a great deal of the drugs from the city of New York goes to the west coast.

Mr. BOGGS. May I interrupt you there, Mr. Cunningham? These narcotics that come into New Orleans from New York and from those points, are distributed all over the United States, is that correct?

Mr. CUNNINGHAM. That is correct. The underworld term for that is connection, Mr. Chairman. The dope peddler has what he calls a connection. By connection he means that he has a person from whom he can buy in wholesale quantities.

Mr. BOGGS. I want to be just a little more specific about this. In the first place, most of this that comes in seems to be smuggled in. Could you state what percentage?

Mr. CUNNINGHAM. Of course, a percentage would be a matter of guesswork. But we think by far the greater part comes in personally. Twenty-five or thirty years ago it might have come in in a packing case, but we have broken that up.

Mr. BOGGS. Most of it seems to come in by seamen?

Mr. CUNNINGHAM. Yes, sir.

Mr. BOGGS. Where does the seaman get it?

Mr. CUNNINGHAM. Mostly in Italy and Turkey, over in the Balkans.

Mr. BOGGS. Does he have a contact in Italy or in Turkey?

Mr. CUNNINGHAM. That is right; that is his connection.

Mr. BOGGS. In the foreign country?

Mr. CUNNINGHAM. Right.

Mr. BOGGS. And that, of course, is regulated by treaty, is it not?

Mr. CUNNINGHAM. Yes, sir. The international traffic is regulated by these conventions. But, of course, you can readily realize at the present time that Italy, being controlled by the military, there is not so much law enforcement.

I might say now, even though this is an open hearing, that the Italian newspapers have recently published some names, that seven or eight of those Italian traffickers in narcotics were arrested and jailed through the efforts of agents of the Federal Bureau of Narcotics.

Mr. BOGGS. In Italy?

Mr. CUNNINGHAM. We had those men in Italy. Congress furnished us some money to do it. It was done, of course, in compliance with existing regulations between the State Department and those countries.

Mr. BOGGS. Have you found any connection with the racketeer Luciano there?

Mr. CUNNINGHAM. I would say this, Mr. Chairman, that after Luciano reached Italy, the flow of heroin into the United States increased immeasurably.

Mr. DONOVAN. I will give you something on Luciano. I was asked something about that before, and I walked away from it. But when Luciano was first convicted and sent back to prison in New York, in the thirties, I was the under sheriff of New York County. I had attended some of the sessions of the trial and my men brought him to jail. I even attended the psychiatric examination that was

held in the old Criminal Courts Building. During the course of that trial the present Governor of the State of New York, who prosecuted him, asked him the point-blank question: "You have been a professional squealer at times in your career, have you not?"

He said, "I? No."

"Weren't you a drug peddler and at one time a narcotics informer for the Bureau of Narcotics of the United States Government?" and he made him admit that on cross-examination of the trial, because he had the record in front of him. And he has not gotten away from it yet.

Mr. BOGGS. I want to trace these drugs just a little further. The seaman gets it. Now, what does he do with it?

Mr. CUNNINGHAM. He sells it to whoever is his customer.

Mr. BOGGS. Well, you are ahead of me. He conceals it in something. What is that?

Mr. CUNNINGHAM. Usually on his person when he brings it off the boat. He may hide it on the ship. When you realize that it is about two-thirds the size of one of those packs of cigarettes and ordinarly he is getting $200 for that, and it may have cost him $25 in Italy——

Mr. BOGGS. He has it concealed in a package of some kind, is that correct?

Mr. CUNNINGHAM. On the boat.

Mr. BOGGS. And when he gets off the ship?

Mr. CUNNINGHAM. He probably has it on his person, taped onto him in some way.

Mr. BOGGS. That is what I am trying to find out. What efforts do you make to keep him from getting off the ship with this package taped onto his person?

Mr. CUNNINGHAM. Primarily that is a matter for the Customs. We work with the Customs all the time. We keep the Customs advised of all suspects in the narcotics traffic. The Coast Guard cooperates. They issue permits to those people, seaman's permits. If a man has gotten into any trouble, we will say, in San Francisco, a seaman suspected of narcotics smuggling; or perhaps he brought in some smoking opium from the Far East, that information is turned over to everybody including the Bureau of Customs, and that man is put on the suspect list and watched.

Mr. BOGGS. Let us say that a ship docks in New Orleans and that the ship has a crew of 50 men.

Mr. CUNNINGHAM. That is a small ship.

Mr. BOGGS. Maybe it is; let us say that the crew number 100 men. As those seamen leave that vessel, does the Bureau of Customs have a man there?

Mr. CUNNINGHAM. Yes.

Mr. BOGGS. Are they searched?

Mr. CUNNINGHAM. I take it most of them are. But, Mr. Chairman, you must realize that the boat may stay in New Orleans 3 or 4 days and those same men come and go off that boat during that time. It would take a standing army to search everybody every time they got off the boat, especially in the city of New York. You just could not do it.

Back in the old days, when smuggling was done by package, they would open 1 out of 10 packages. You could not open every package

that came into the port of New York, because you might destroy merchandise that belonged to people who were in legitimate business. You just could not open every package.

Mr. BOGGS. Let us assume this man gets off the ship and he has this package on him. Where does he go with that?

Mr. CUNNINGHAM. Let us start at the other end. Let us say there is a man running a bar in the city of New Orleans. There is a seaman drinking in his bar. He says to him, "When are you going back to Europe?" "I am going back next week." "Are you going to Italy?" "Yes."

He says to him, "If you will get me some heroin, I will give you $200 an ounce for it." And the seaman has a deal on. That is the way they start.

Mr. BOGGS. The barroom operator, this character, this fictitious character, he is not operating on his own, is he?

Mr. CUNNINGHAM. He may not be, or he may. He may have some other higher-up that is putting up the money. For instance, I will suggest to you, if you go back to Luciano, that just a short time ago, across the river in New Jersey, we tried a conspiracy case and convicted 10 or 12 people, 2 of whom were major violators. It developed during the course of that trial that those two men had had an emissary see Luciano in Italy. The court was somewhat concerned about it. Those two men, of course, were convicted. Now, you have got to think of this. Luciano has been deported to Italy. If you bring him back into this country, it might suit him.

Mr. BOGGS. Let me ask you this question: Ships and seamen are not the only ways narcotics are brought in?

Mr. CUNNINGHAM. I would say that the greater part of it comes in in that way.

Mr. BOGGS. Is any of it brought in by air?

Mr. CUNNINGHAM. There might be some brought in by air, across the Mexican border. When the war was going on, of course, there was no smuggling of narcotics; I mean, from the Mediterranean. Certain people in Mexico started to raise poppies and they got a chemist and made heroin. The Mexican Government cooperated even to the extent of flying planes over those fields in the mountains to see if they could locate them. They have done a pretty good job. But I understand that there is a rather large group in Mexico at the present time and it will probably be ready to begin operations about April 15, all of which will be discussed at the United Nations meeting commencing next Tuesday.

Mr. BOGGS. That brings me to another question. What are your present enforcement methods along the Mexican border?

Mr. CUNNINGHAM. We work with the customs. You have been up and down the Rio Grande?

Mr. BOGGS. Yes.

Mr. CUNNINGHAM. There are many, many places where a man can walk across seven times a day. If you had to police the whole border between Mexico and the United States, you would have to have quite a few people down there.

Mr. BOGGS. In your opinion, what is the percentage of the narcotics that is brought into this country from Mexico at this time?

Mr. CUNNINGHAM. Mr. Chairman, that would be a guess. We can usually tell when we are getting hold of heroin, that it is not manu-

factured in the Middle East, because the Mexican heroin is not as well prepared as the heroin from the Mediterranean. At one time there was some heroin coming in from Japan. It was distinctive. Of course, that has long since ended. For some time there was smoking opium coming in out of Mexico.

Mr. BOGGS. Is there not a large quantity of marijuana?

Mr. CUNNINGHAM. You just took the words out of my mouth. The most-sought-after marijuana today comes out of Mexico. It seems they have a climate down there that grows it, where the alkaloid is much stronger than in that which is grown in the United States. Hemp is a commercial crop in certain places in the United States. Hemp is used in the manufacture of rope and twine. Marijuana is planted like wheat. It grows no larger than your finger and what is taken off is manufactured into hemp rope. We do not have so much trouble with that. Of course, there is some trouble, because they can keep the crop growing from year to year by planting marijuana for seed purposes. And it is the flowering top of the female plant which contains the resin and that is much stronger in the stuff that comes out of Mexico, due to the climatic conditions down there.

I would say to you frankly that the marijuana situation is bad. In fact, it never has been good. There seems to be a prevalence among younger people to start off smoking marijuana and then graduating to heroin. It may be of interest to you gentlemen, if you want to take a little time——

Mr. JENKINS. What does it look like?

Mr. CUNNINGHAM. Heroin is a powder. It is the color of sugar of milk. It is light. Most of it has a little tinge of brown in it, but it is white. When they dilute it, they use sugar of milk. Pure heroin is about 87 or 88 percent. You will find it diluted down to only 10 or 15 percent, which means that a man who had 1 ounce of 88-percent heroin and diluted it 10 times would have 8 ounces.

When that heroin reaches the consumer, the addict, the price will run from $3,000 to $4,000, and it started out at $25 in Italy. That would give you some idea of why these racketeers get into it. These people in the rackets move from one racket to another, where they can make money without working.

You asked Mr. Donovan a while ago about the big racketeers. There was a man up in New York named Buchalter Lepke. He went into the narcotics racket up there, because he knew these people were making money. If they have enough of a gang, they have the habit of muscling in, cutting themselves in on the racket.

Mr. JENKINS. Anything that sells at that price, one would think no one but a rich person would be able to buy it.

Mr. CUNNINGHAM. At $8 to $15 a day there are not many school children who could afford to buy it, to maintain the habit.

Mr. DONOVAN. That means that he steals in order to get it.

Mr. CUNNINGHAM. That is right. And the girls sometimes become prostitutes. Buchalter muscled in on the racket. I am quire sure Mr. Donovan remembers him. Buchalter got 12 years for violating the narcotics law and that sentence was meted out mainly because he had convictions against him for various offenses under State law. Murder was one of them. Buchalter was executed in the Murder, Inc., matter. We turned him over to the State and they took him out and killed him. That removed him.

I want to assure you people that the Bureau of Narcotics is not interested in addicts as such, to punish those people. It is not an offense to be an addict under Federal law. It is an offense for an addict to buy narcotics. We are dealing with nonmedical addicts; people who have a medicinal need for narcotics can get it from their physician on a prescription or when he administers to them. They take the prescription to a drugstore. Those controls are set up as tight as we know how.

Mr. BOGGS. I would like to interrupt you to ask one or two questions. Do you have any difficulty with physicians?

Mr. CUNNINGHAM. It is a rare instance; we never prosecute a physician that is not a dope peddler. He has to be a dope peddler before we prosecute him. In other words, he has no more right to peddle dope than a blacksmith. As long as he practices his profession in an honest and legal manner, he will never have any trouble. It is the fellow who sells a dram of dope for $100, to some dope fiend, that gets into trouble.

Mr. BOGGS. Do you have any cases like that?

Mr. CUNNINGHAM. Sometimes; not often. I will say that so far as the pharmacists are concerned, it is the rare instance that we ever have to prosecute a druggist anywhere. And it is getting more rare to have to prosecute doctors. I think we had some out in Virginia. Mr. Harrison probably remembers about that man who was selling narcotics. He wanted radios and tires and all sorts of merchandise that he knew were stolen. In fact, he suggested it. That was brought out at that hearing, wasn't it, Mr. Harrison? That is the rare exception. That is just rare. But the only doctors that we prosecute are those who are dope peddlers and they are a disgrace to their profession, of course.

Mr. BOGGS. And their number is quite small; those cases are rare?

Mr. CUNNINGHAM. Quite rare.

Mr. BOGGS. One other question in that connection. Would it be possible to handle that through the use of a certain type of prescription blank, or something of that sort?

Mr. CUNNINGHAM. Under the Federal law I doubt that we would have that right. Those are police powers. The Harrison Narcotics Act regulates internal traffic in drugs. The Narcotics Act has been sustained by the Supreme Court on the basis of its being a revenue measure. In any violation of the Harrison Narcotics Act you will find revenue involved.

The gentleman pointed out a while ago something about drugs that had been imported, which is covered primarily by a customs statute. There are two different statutes. There is the Drug Export and Import Act which says that you cannot bring these drugs in.

Mr. BOGGS. Mr. Cunningham, I do not want to interrupt you, but I do not think there is any question about the authority of the Government, because the Government has the authority to regulate the movement of narcotics because of its power in the matter of the imposition of taxes, but it also has complete authority to regulate the dispensation of those narcotics through interstate commerce; and the writing of a prescription itself is a dispensation.

Mr. CUNNINGHAM. The Supreme Court has so held if the prescription was filled.

Mr. BOGGS. That is right.

Mr. CUNNINGHAM. The act says it can be dispensed in good faith on a prescription dated as of a certain date, and signed by the physician that prescribed it. I thought that you had in mind providing a certain kind of prescription; maybe I misunderstood you.

Mr. BOGGS. As a matter of fact, that is exactly what I was thinking about. Apparently you do not have a problem there?

Mr. CUNNINGHAM. Just so the order is signed.

Mr. BOGGS. Please proceed, Mr. Cunningham.

Mr. CUNNINGHAM. With reference to these addicts that roam the streets, they are a problem in that narcotics addiction seems to be contagious. We feel that in addition to this minimum punishment law, that there should be greater law enforcement all they way down the line at the local level. As I said before, with 188 agents we have, and the small amount of money that we have on which to operate we cannot begin to cover the United States. We direct our activity at the source of supply, cooperating at all times with the local officers, as manpower and money will permit.

We have withdrawn from our files at random some statistics. The first of them have to do with this age proposition, which I have given you with reference to the prisons. I want to get down to cases that indicate the reason. This represents 602 case reports.

When we take these people into custody, a questionnaire is made out. They are asked a lot of questions. This is as of February 1950. Fifty-three percent of those people said that they started their addiction by reason of association with other addicts. Seven percent of them started on marijuana. Twenty-five percent of those 600 had been on drugs less than a year. I am directing my remarks to association now, to show why it is necessary that these people should be hospitalized. I do not mean by the Government; I mean the local people should take some action about these addicts. I do not mean dope peddlers, but I mean the addicts who buy. It is an offense for an addict or for anyone to buy narcotics out of an unstamped package. It is not an offense for an addict to go to a physician and get narcotics, even though the physician violates the law. It is not an offense upon the part of the addict. But it is an offense for that addict to have drugs in his possession which may have been smuggled.

The Congressman asked a while ago how that was proved. The act makes possession prima facie evidence and he must satisfy the jury as to how he obtained the drugs.

The Narcotics Act sets up a method of carrying those drugs. If you go to a doctor and you have some gallstone colic, for which you need some medication—we will say morphine—he writes a prescription. You take it to your pharmacist. The law requires the pharmacist to write your name on the box, the number of the prescription, the name of the physician, and the date that he filled it. Therefore, if you happen to be picked up by some officer with that drug in your possession, that is the answer.

If you have some heroin in your possession, manifestly you are going to have a hard time, because heroin has not been legitimately manufactured in the United States for a great many years. So the burden shifts to the person who is picked up to prove that it is in his possession legally, to the satisfaction of a jury.

We are not concerned so much about tax-paid drugs.

Mr. JENKINS. Let me ask a question at this point. With reference to the enforcement of this law, could that be done by the States and the local authorities?

Mr. CUNNINGHAM. I would say that the States could do it, if they would. I might say that we saw a year or 2 years ago that this proposition was getting out of hand. We sent letters out to our field supervisors—there are 15 districts in the United States—to confer with every United States attorney in their district and explain to them the conditions that were progressively getting worse, with the idea of getting statements to the courts or of making statements to the courts when people were convicted, to see if longer sentences could not be meted out. That was in the early part of 1950.

Some time ago we sent to every State in the Union—we sent it to our Representatives and asked them to confer with the people whom they know—to see whether or not the States themselves would not amend their narcotics laws to provide minimum punishment for second and subsequent violators. As a result of that two States have passed such laws. Tennessee passed such a law and removed the probation provision. There is no probation. A dope peddler in Tennessee has got to get 2 years for the first offense, and not more than 5 years.

Mr. DONOVAN. May I ask a brief question there? There is such a thing as a uniform Narcotics Act, is there not?

Mr. CUNNINGHAM. That is correct; that is the uniform Narcotics Act.

Mr. DONOVAN. How many States have it?

Mr. CUNNINGHAM. I should say 35 or 40. Our attorney says 42 or 44. California has its own State narcotics law.

Mr. JENKINS. Have New York and Illinois passed such a law?

Mr. CUNNINGHAM. Yes, sir.

Mr. JENKINS. It would seem as though they could attent to the whole business, then, would it not?

Mr. CUNNINGHAM. If they amend their law with reference to punishment.

Mr. BOGGS. Which are the States that have not passed that law?

Mr. CUNNINGHAM. California does not have any. That is, it has its own law, but not what is called the uniform narcotics law. Let me ask the attorney from our Bureau, Mr. Tennyson, which States have not passed it.

Mr. TENNYSON. Kansas, Massachusetts, New Hampshire, and Washington, I think, have not passed it.

Mr. CUNNINGHAM. And California has its own law.

Mr. JENKINS. Just one other question. Let me make sure about this. You say that the States can handle this. Can they handle the question of the source of the importation?

Mr. CUNNINGHAM. No, sir. That is exactly why we come in. They cannot do that.

Mr. JENKINS. That is what I was trying to find out.

Mr. CUNNINGHAM. That is right. We have got to help the States there. We have, as I said at the outset, with a little force of men, tried to make a drive at the source of supply. In other words, if there is a man in New York who is selling 10 dope peddlers out over the country, if we can eliminate him, his 10 peddlers will not have any heroin.

Mr. DONOVAN. May I ask a question there? I suppose there are tricks to the trade like in everything else, is that correct?

Mr. CUNNINGHAM. Yes.

Mr. DONOVAN. It is the big fellow who has these peddlers all over the country you want to put out of circulation?

Mr. CUNNINGHAM. That is correct. As I told you, we went over to Italy last year, back to the source where it was manufactured.

Mr. DONOVAN. And that is the purpose of this bill, to put those fellows out of circulation?

Mr. CUNNINGHAM. Those fellows that we catch.

Mr. DONOVAN. In other words, put the know-how out of existence?

Mr. CUNNINGHAM. That is right. It is the second and subsequent offenders that this bill drives at.

Mr. JENKINS. One other question. We produce any quantity of marijuana in this country; do we not?

Mr. CUNNINGHAM. For hemp products, that is right. But marijuana that is grown for hemp does not mature to seed. It is cut before it gets to seed. The only marijuana that you get in this country, illegimate growers of marijuana in the country, is that which they grow for seed purposes. I think Kentucky is the only place where they grow marijuana for seed purposes. Then they have a crop for next year. But the amount of other marijuana that is planted is tremendous. It grows like wheat. It grows so tall and then they cut it down with a machine and pull the fiber off. There is no trouble with that.

Mr. JENKINS. I know something about that, but it looks like that would be a field you could not control at all.

Mr. CUNNINGHAM. They are registered. Those people have to make returns.

Mr. JENKINS. The farmer raising hemp could not make marijuana; could he? There has to be some process to make it?

Mr. CUNNINGHAM. Marijuana is the Mexican term for that part which they smoke. It is the flowering top of the female plant. It has to go to seed. The marijuana grown in Illinois by the farmers is not for that purpose; that is used to make hemp rope. They do not let it go to seed; therefore, there is nothing to do. Marijuana is a Mexican term. The people in Egypt call it hashish, and in India they call it claris. It is put up in bricks, and they smoke it.

Mr. JENKINS. A lot of marijuana is circulated among high-school children?

Mr. CUNNINGHAM. That is where the cigarettes are involved. That is the flowering top. You might pull the leaves from the marijuana plant of some farmer who is growing it to make hemp rope, and you might as well smoke corn silk.

Mr. JENKINS. All over Ohio and other States the farmers are raising big fields, and instead of using it to make rope, it looks like they would use it to make marijuana when they can make 10 times as much.

Mr. CUNNINGHAM. The system is to plant marijuana for seed purposes about 20 feet apart; you plant the plants about 20 feet apart. I have seen it in Kentucky that big [indicating].

Mr. JENKINS. Have you ever investigated to see who they are; have you gotten any of those fellows who, instead of making hemp rope, were making marijuana?

Mr. CUNNINGHAM. We have found some people in the country who were clandestinely making marijuana if they got a big yield.

Mr. JENKINS. Is that a violation of law?

Mr. CUNNINGHAM. Yes.

Mr. JENKINS. It is not a violation to raise marijuana?

Mr. CUNNINGHAM. It is not a violation if you register. You have to register, and thousands of them have. They are brought into court every month. The possession of marijuana is an offense.

Mr. JENKINS. Those are the people I would like to see caught. I hate to see these little high-school kids becoming addicts to it all over the country.

Mr. CUNNINGHAM. There is a lot of it going on.

Mr. JENKINS. And it is getting out in the country districts, too.

Mr. BOGGS. Where have you particularly found those clandestine fields?

Mr. CUNNINGHAM. It grows more in the southern countries, but it will grow wild pretty much all over the country. We caught some fellows out of Memphis across the river in Arkansas growing marijuana and selling it in the Army camp at Paris, Tenn., during the other World War. We had an agent down there posing as a soldier. I think as a result there were 17 or 18 court-martialed, and the man growing marijuana across the river in Arkansas was tried in the Federal courts and sent to prison.

But the chief marijuana problem is that which is smuggled in from Mexico. The people we want to catch are not the little fellows who smoke marijuana cigarettes; we want the men who sell them those cigarettes; we want to remove those men from the scenery.

As I said before, those violators usually get a year and a day, and they say "I could do that standing on my head." I have heard that so many times—"I could do that standing on my head"—that I hear it in my sleep. But if he got 15 years, you would not hear it any more; or at least for 15 years he would be put away. But that is common talk—"I can do that standing on my head."

Mr. BOGGS. In other words, if you have those peddlers and violators in prison where they belong, your problem is immeasurably less?

Mr. CUNNINGHAM. The dope traffic melts away where people get long sentences.

Mr. BOGGS. Do not we have some comparative figures on the dope traffic and the white-slave traffic that might be of interest to this committee?

Mr. CUNNINGHAM. You mean on sentences?

Mr. BOGGS. That is right. After all, that is what we are principally concerned with here—strengthening the law so as to put these people in the penitentiary where they belong.

Mr. CUNNINGHAM. During the same period of time—this is part of the statistics we submitted—of those convicted and sentenced for violation of the White Slave Act, only 19 percent were placed on probation, whereas 9.3 percent of those convicted of the offense received sentences of 5 years or more.

Mr. BOGGS. Nineteen percent were placed on probation?

Mr. CUNNINGHAM. Right. It is percentagewise and not the number of cases.

Mr. BOGGS. What do you have percentagewise on narcotics convictions?

Mr. CUNNINGHAM. You mean placed on probation?

Mr. BOGGS. Yes.

Mr. CUNNINGHAM. Out of 1,598 in 1949, 25 percent were placed on probation.

Mr. BOGGS. Now let us get your other sentences on white slavery. Let us get the comparative figures.

Mr. CUNNINGHAM. In counterfeiting, 10 percent of those convicted received sentences greater than 5 years.

Mr. BOGGS. Give me the other figures on the white-slave traffic. Of the ones convicted and not placed on probation; what was the average sentence?

Mr. CUNNINGHAM. I only have those in excess of 5 years; 9.3 percent of those convicted received sentences greater than 5 years. Only 19 percent were placed on probation.

Mr. BOGGS. What percentage of narcotics violators received sentences in excess of 5 years?

Mr. CUNNINGHAM. There were 43 individuals who received sentences of 5 years and greater out of the 1,187. That would be a little over 3 percent.

Mr. BOGGS. As a matter of fact, the white-slave traffic is pretty well broken up; is it not?

Mr. CUNNINGHAM. Yes, sir.

Mr. BOGGS. Would you say those sentences meted out, which have been almost uniformly stiff, have had a lot to do with breaking it up?

Mr. CUNNINGHAM. Undoubtedly so. And it has broken it up in the narcotic cases in the instances I cited, where I work and know.

Mr. BOGGS. I want to talk a little more about the Brooklyn-Manhattan thing. Do you have some figures on the comparative sentences between the Brooklyn district, so-called, and the southern district?

Mr. CUNNINGHAM. The Brooklyn district and the eastern district of New York. I have no comparative figures on the Brooklyn district. The narcotic cases prosecuted in Brooklyn are rather few and far between. I can have the clerk go through the records and pick out the Brooklyn cases and get them for you.

Mr. DONOVAN. Would you care to confirm the statement I made that they would rather turn those cases over to the police and prosecute them in the State courts and take the chance there?

Mr. CUNNINGHAM. We prosecute all of the cases we can in the State courts in the southern district of New York because, first, they get tried promptly—we do not have to wait—and we get them in the penitentiary. There are two reasons. First, we get them off our books quick. That is another problem—having the cases drag on and drag on and drag on until the witnesses are gone.

Mr. BOGGS. I have a statement here signed by the acting secretary in connection with those comparative figures. You have given those figures you just mentioned, but the secretary from the same sources of information indicates an interesting comparison. During the same period of time, of those convicted and sentenced for violation of the white-slave traffic, only 19 percent were placed on probation.

Mr. CUNNINGHAM. Correct.

Mr. BOGGS. It appears also that 9.3 percent of those convicted and sentenced for the offense received sentences of 5 years or more, while

those convicted and sentenced for violation of the narcotic laws who received sentences of 5 years or more were only 2.7 percent.

Mr. CUNNINGHAM. I was guessing when I said 3 percent.

Mr. BOGGS. He says:

> While the white-slave traffic is, of course, most reprehensible and debasing, but hardly more so than the nefarious trafficking in narcotic drugs. The figures for another type of offender, the counterfeiter, disclose 10.4 percent received a sentence of 5 years or more.

Mr. CUNNINGHAM. That is correct. In the same report you will also find it interesting to note than since 1946 there has been a decrease of approximately 20 percent in the total number sentenced to Federal prisons, excluding narcotics, while during the same period there has been an increase of approximately 20 percent in the number of persons sentenced for narcotics violation. It might also be interesting to note that with less than 2 percent of the enforcement personnel of the Federal Government, the Bureau of Narcotics has slightly less than 10 percent of the prisoners in Federal penitentiaries. I think I can, without being indelicate, say that is about the best law-enforcement body in America. These men work never less than 7 days a week. We keep an accurate count. They are paid for five. We cannot get any more work out of the men than we are getting. They work day and night. There is never any complaint. And if they did not do that, we could not produce the results we do.

Mr. BOGGS. Those agents frequently pose as addicts; you infiltrate, in other words?

Mr. CUNNINGHAM. That is right. They are undercover men. They work under cover and infiltrate into the dealers, always seeking the source of supply. For instance, for your information I will just cite your own town, and I will give you some figures. I was down there last year when the boys caught a colored boy. I sat in the office and talked to him. I said "How much heroin do you sell in a day?" He said "About 100 capsules." I said "How much do you get for them?" He said "$3 apiece." I said "How much do you pay for them?" He said "I pay $2 apiece." I said "That means you make $100 a day." "Yes, sir. But I use some of them myself." I said "Who are you getting them from?" He said "Vincent Capro."

Now, the point I am driving at is that then we try to take that man, if we can, and get to Vincent Capro, which was done. Vincent got 4 years in the penitentiary.

I am not saying anything critical of the judges in New Orleans, because they are very close personal friends. I can remember, when I worked there 30 years ago, Judge Rufus Foster was there, and there never was a better man or a better judge. He usually gave them a year and a day. I do not believe you are old enough to remember him.

Mr. BOGGS. I remember him. He was a very fine man.

Mr. CUNNINGHAM. That is the sentence they incurred in New Orleans. In Memphis, Tenn., where the same thing existed, the judges started giving them anywhere from 5 to 15 to 18 years, and you just are not going to catch dope peddlers in Memphis. They are not going to go there. The fellow you might catch and prosecute over there is usually an addict. The judge down there at Memphis arbitrarily for the second offense sends him up for 3, 4, or 5 years, and we do not have the dope peddling problem, you see.

Mr. BOGGS. You mentioned this Vincent Capro. Have you had fairly good cooperation from the local authorities in New Orleans?

Mr. CUNNINGHAM. Very good. And we still have, too. They do happen to be rather unfortunate in that we only have four agents in the city of New Orleans. You see, the source of supply comes in——

Mr. BOGGS. In response to Mr. Jenkins' line of inquiry, it would obviously be impossible for the local authorities to take over this whole problem. You have a problem of policing every ship that comes into port and every airplane that lands at the airport.

Mr. CUNNINGHAM. Right.

Mr. BOGGS. And only your Bureau and the Bureau of Customs can do that.

Mr. CUNNINGHAM. That is exactly right. We run backward and forward across the coast all the time. We catch a dope peddler in Arizona. He may tell us he got it from a man in New York. It is our purpose to try to infiltrate the man in New York. You see, we work under cover. Let me cite an instance. We had some dope peddlers which the city of San Francisco had not been able to do anything with. We took a man out there—I shall not go into the modus operandi, obviously—and within 5 or 6 months he was their pretty good friend, and as a result all but one are in the penitentiary. That is the way we cut the source of supply.

Mr. DONOVAN. You know the identities of most of the individuals?

Mr. CUNNINGHAM. Yes, sir. Some new ones come at times to take the others' places, but we have a list of all of the dope peddlers which is turned over to the law-enforcement officers. We know who they are.

Mr. BOGGS. The FBI work with you; do they not?

Mr. CUNNINGHAM. Whenever they are needed. Of course, narcotics is assigned specifically to the Bureau of Narcotics for the internal traffic, and on the borders Customs works jointly with us. The FBI frequently turns over anything they can on narcotics to us, and, if we need their assistance, of course, they give it to us.

The problem is more than punishment. We think, of course, punishment is the first thing, but you have to have more law-enforcement officers to catch them. That takes money. The second thing is that there should be some hospitals at the local level to take care of the unfortunates who are not dope peddlers but who are addicts. The dope peddlers could not live if it were not for them. We do not want to put them in penitentiaries.

Mr. BOGGS. How many addicts do you estimate there are in the United States now?

Mr. CUNNINGHAM. I would say maybe 50,000, 60,000, or 65,000. That is nonmedical addicts; that is not medical addicts.

Mr. BOGGS. I understand the distinction. What is the total hospital capacity for the treatment of addicts at this time?

Mr. CUNNINGHAM. Federal?

Mr. BOGGS. Federal and local.

Mr. CUNNINGHAM. I could not tell you about the local.

Mr. BOGGS. What about the Federal?

Mr. CUNNINGHAM. I would say the Lexington Hospital was originally built for about 1,100. It had 1,450 in there the other day. I think Fort Worth is about the same size. Fort Worth is a different type hospital. But there were 1,400 and some in Lexington as of a few days ago. It is bursting at the seams.

Mr. BOGGS. What connection is there between dope addiction and other types of violent crime?

Mr. CUNNINGHAM. I do not know whether I could be specific about that or not. Sixty-five percent of the people we apprehend are repeaters of other violations of Federal laws. I do not mean they are all narcotics violators; they might have been robbing a bank or committing some other violation of Federal laws. Sixty-five out of every 100 we apprehend without prior convictions violate some Federal statute. I would say 40 to 45 percent of them have been convicted for violating the narcotics laws.

Mr. BOGGS. Do you have any further statement, Mr. Cunningham?

Mr. CUNNINGHAM. Yes, sir. I have a statement prepared by Mr. Harney, Assistant Commissioner of the Bureau of Narcotics, who is in direct charge of enforcement. It is so good that I ask you gentlemen to permit me to read it.

Mr. BOGGS. Go right ahead.

Mr. CUNNINGHAM (reading):

MANDATORY SENTENCES FOR NARCOTIC LAW OFFENSES

What I am saying may be common knowledge, but for the record it might be well to touch briefly on the nature of this commerce in illicit narcotics. The opiates and cocaine are poisons which slowly destroy the physical being. Most people reserve a particular horror and antipathy for the poisoner. There is no reason why the narcotic peddler should be excluded from this feeling. While the narcotic poison slowly destroys the victim's physique, it may rapidly destroy his dignity, his respect, his moral values. A useful citizen may soon become a parasitic criminal. If one already has criminal tendencies, he is confirmed in them. In a few months a wholesome woman may be transformed into the lowest harlot that walks the streets.

Narcotic commerce is no crime of accident or impulse or occasion. It is a carefully studied way of life. It depends on deliberate and calculated scheming and diligently developed sources of supply, on carefully cultivated outlets and customers. This is a degraded business where the attendant human misery is completely discounted for the profit consideration. That profit is alluring. A $1,000 investment may be doubled merely by crossing a street between a wholesaler and a waiting customer with a few ounces of heroin. Obviously the criminal will assume some risks in such an attractive business.

He calculates these risks exactly. His is such an easily hidden business that he knows that it might take officers of the law months to catch him at the exact moment when competent evidence is available against him. He knows the quality and amount of the narcotic law enforcement in the community; he knows whether narcotic cases move promptly on the criminal calendar or are stagnated for months; he knows the quality of prosecution; above all, he knows what is the likely payoff in the way of a sentence. These professionals do not just reckon sentences in the gross amount of time imposed. They can almost instantly figure the amount of good time and industrial good time which might be forthcoming on any kind of a sentence. They know under just what circumstances probation or parole is likely to be granted. Fear is the only consideration which will deter most of these people. We would like to see the risks enhanced in this dirty business.

One more thought. Assume that we have only a certain number of people with the criminal know-how to carry on the narcotic traffic. And it does require know-how. Then it is an elemental police matter that long sentences will permit the fewest to escape justice. With one contingent captured and out of the way for a long time, the police can concentrate on the remainder. The enforcement machine can run smoothly on new grist without being clogged by repeaters who, if given early release, will simply be fed back into the machine to overload it.

That, I think, expresses it very adequately.

There is one thing I would like to suggest to you. One of these gentlemen mentioned something about the Armed Forces. I would say now that we spent probably, on a percentage basis, from 10 to 20 per-

cent of our time—it has been many months ago—until we caught 12 dope peddlers taking narcotics into this air base out here. Just last month we took 9 or 10 out of Camp Eustis, one of whom was a sergeant, peddling dope and marijuana on the premises. In the past 3 months we have taken 10 out of Fort Knox, which is close to Louisville. They are all in jail.

The last thing, they conceived the idea that if they could get hold of a little heroin on that base, the Army doctors would discharge them, which was quite true. We moved into Louisville, iudicted them, and the judge gave them 5 years in the penitentiary. The other eight at Fort Knox stated they were addicts, and the doctor rather agreed with that. Our agents would not agree, but the doctors said they would not keep them in the Army; they were bad risks. We asked them to make an affidavit that they were addicts, which they did. Those eight are now in the Lexington Hospital serving a year and a day.

By the way, Kentucky has a law for the commitment of non-medical addicts, and the judges down there, even in the inferior courts, may probate the sentence conditioned upon their going to the hospital. I think New Jersey has one and maybe one other State.

Mr. DONOVAN. Do you find, Mr. Cunningham, that some of the sources of supply of these peddlers go back to New York?

Mr. CUNNINGHAM. Mr. Donovan, it is our judgment that 90 percent—or 75 percent, anyway—of the narcotics throughout the United States, heroin and such, are funneled through the Port of New York.

Mr. DONOVAN. To take care of the whole country?

Mr. CUNNINGHAM. That is right.

Mr. HARRISON. Mr. Cunningham, Mr. Davis, our committee clerk, made this computation based on your testimony, and I wonder if you would care to comment on it. Assuming 75,000 addicts in the country and it costs them $10 a day for a supply, that would indicate about $275 million a year that the underworld gets out of the dope addicts.

Mr. CUNNINGHAM. I would say that is a fair figure, Congressman. As I said before, it is rather difficult to fix a price that is uniform. Right now heroin is bringing $10 a grain at Seattle and bringing $2 a grain in New York. It is bringing $3 or $4 a grain in Texas. A few months ago, at Memphis, Tenn., it probably cost $15 a grain, because they are not going there with it; they are afraid. They won't go to Minneapolis. They just stay away from those places.

I do not want you gentlemen to think I am impertinent when I keep referring to the fact, but that is a fact. I would say the average addict would take all of the drugs he can get, whether it is $6 worth or $66 worth, depending, of course, on the place where it is purchased.

I sat in a church down in Dallas, Tex., 2 years ago and talked to a young girl whose husband helped the agents catch the source of supply. I asked her how much narcotics she used a day. She said 7 grains apiece. I said "That is $56 apiece or $112 a day." She said "That is right." I said "What do you do when you cannot make the money to supply yourselves?" She said "He steals." I said "Do many days go by when you do not get it?" She said "There don't many days go by that we do not get our prescribed quantity." That is about $112. At that time those drugs were selling for $8 a grain in Dallas.

Mr. HARRISON. Now, Mr. Cunningham, you need not answer this as far as I am concerned, but have you any comments on a bill along the lines of the one Mrs. Rogers has presented?

Mr. CUNNINGHAM. On the barbiturates bill?

Mr. HARRISON. Yes.

Mr. CUNNINGHAM. Congressman, I did not know that was coming up until yesterday afternoon. That is a matter of policy to be fixed by the Secretary of the Treasury. I will say this however, that when this bill or a bill similar to it was introduced in the Eightieth Congress, the Secretary of the Treasury prepared a report opposing it.

Mr. HARRISON. Yes. I read that.

Mr. CUNNINGHAM. I will say this: Frankly, while I am not the head of the Bureau of Narcotics, I am sure I can speak for him and say that the Bureau of Narcotics does not think such a bill should be placed before the Bureau of Narcotics at this time, anyway. There is a lot of danger to that bill, and it is an important matter, and the use of barbiturates is well understood by people who know anything about it. But as to the mechanics of it, I should say, even if the bill were to be passed, it should not be tacked onto the narcotics law. I understand this bill in effect merely adds the word "barbiturates" to narcotic drugs. In other words, it provides the same schedule of fines for barbiturates as it would to opium, heroin, or any other narcotic drug. I say, in my opinion, that is a rather dangerous composition for more reasons than that.

Mr. DONOVAN. Am I correct in my statement?

Mr. CUNNINGHAM. You are quite correct in your statement. A convention of 65 nations of the world has formed this convention about the internal control of narcotics. They have agreed to limit the production to the medicinal needs of their own countries. If everybody did that, you would have no need, probably, to enact an individual act.

I might add that Canada is having the same resurgence that we are.

Mr. BOGGS. Getting back to Mrs. Rogers' bill, is it not a fact that you can be just as badly addicted to barbiturates?

Mr. CUNNINGHAM. Mr. Boggs, I would say that would be a question which would appeal to the medical man more than it would to me. I understand barbiturates can be used to induce intoxication rather than the same habituation that an opiate will produce. In other words, if you build up the body to a point where it will accommodate enough morphine to kill 25 or 30 people and then remove it, you are going to have withdrawal symptoms which are rather severe and which are well known to the medical profession, and you won't have the same withdrawal symptoms from the use of barbiturates.

The abuse of the use of barbiturates is undoubtedly very, very bad. As to how it should be reached, I am not prepared to say. As I say now, of course, I cannot speak for the Secretary of the Treasury in saying whether or not he would oppose that bill making barbiturates part of the narcotics law by definition only. And that is all you would have to do.

Mr. HARRISON. All right, let us put it this way: Would it be proper to suggest that, if the Department has anything to suggest in the way of a bill of that character, you communicate with us a little later?

Mr. CUNNINGHAM. We would be glad to. You know barbiturates are widely used by every ethical concern in the country for sedation, a thousand times more than narcotics. A doctor will use them before he has to use drugs. He will only use drugs for very bad organic diseases. People take barbiturates for many reasons—hypertension and nervousness.

Mr. HARRISON. Mr. Cunningham, has this last Boggs bill been submitted to your legal staff for comment on phraseology?

Mr. CUNNINGHAM. Not the last one. The second bill was submitted and the counsel in the Treasury Department and in our office got together and talked over certain items regarding minor amendments, chiefly for the purpose of relieving the bill of any ambiguity with regard to when second offenses would run. They were afraid that the bill as originally drawn would mean that second offenses would run only after the passage of the bill. As the bill is now drawn, it will apply to convictions if they took place in 1918.

Mr. HARRISON. Look at page 3, line 17, of the bill. Do you think it is all right to require the accused to explain something connected with his offense to the satisfaction of the jury?

Mr. CUNNINGHAM. That has been the law since passed.

Mr. HARRISON. I understand that it would be a prima facie presumption, but to try to get the accused to satisfy——

Mr. CUNNINGHAM. It depends upon the physical condition of the drug. The Harrison Act regulates the internal traffic in narcotics. As I said before, it provides a vehicle for you to identify these drugs as having been either obtained from a physician or a drug store pursuant to a physician's prescription, all of which appears on the box.

Now, if a man shows up with some morphine which has been manufactured in this country, and that morphine is not in that box, the Supreme Court has sustained a presumption that he purchased it unlawfully.

We come to the other act, the one that you are now concerned with, and in nine hundred ninety-nine out of a thousand cases the drug in question is heroin which is not manufactured in the United States lawfully.

Mr. HARRISON. I am not questioning the desirability of what you are attempting to do there. In other words, there shall be a presumption, a rebuttable presumption, but I was just concerned with the phraseology that would put upon the accused person the duty to satisfy a jury. If you say that is already in the statute, then it is there.

Mr. CUNNINGHAM. It has been done, and the Supreme Court has affirmed many cases. That was originally known as the Miller-Jones Act. It is now the vehicle for the importation of drugs into this country.

Mr. HARRISON. What comment have you to make about the cooperation you receive throughout the country from the district attorneys?

Mr. CUNNINGHAM. It has been uniformly very, very good. We have no trouble with the United States attorneys. They have their problems just as we have ours. We may want them to move their cases faster than they feel they can move them. In some cases the dockets are rather crowded, which I submit is bad.

Mr. HARRISON. Is there any area in the country where you feel you are not getting the proper cooperation from the district attorneys?

Mr. CUNNINGHAM. No. I know of none. As I said before, the Bureau of Narcotics has no criticism to make of Federal judges. They are meting out sentences within the purview of the statutes passed by Congress.

Mr. HARRISON. Let us look at that a minute. You said a while earlier in your testimony there are certain areas which the underworld avoided.

Mr. CUNNINGHAM. Right.

Mr. HARRISON. What are those areas?

Mr. CUNNINGHAM. Where long sentences are meted out.

Mr. HARRISON. Where are they?

Mr. CUNNINGHAM. Memphis, Tenn.; Louisville, Ky.; Minneapolis, Minn.; Brooklyn, N. Y.; and parts of Texas—the middle district of Tennessee.

Mr. HARRISON. They are areas that they stay out of?

Mr. CUNNINGHAM. Yes.

Mr. HARRISON. Where are the areas in which they concentrate?

Mr. CUNNINGHAM. The southern district of New York—Manhattan.

Mr. HARRISON. Can you give me the names of the judges in the Federal courts in the southern district of New York?

Mr. CUNNINGHAM. I can get them for you. There must be 15 or 18.

Mr. HARRISON. I would like to have them. Is there any variation as between the judges in meting out punishment?

Mr. CUNNINGHAM. I think that is true. I think one judge will want to give a man two years and another two and a half. There is no set rule up there for it. I can say this to you: It was not many years ago when a judge from Memphis, Tenn., whose name was Anderson—he is now deceased—tried some dope peddlers up there and he gave them a year and a day, and I walked up to the bench and said, "Judge, you are getting a little weak, are you not?" He said, "When you are in Rome, do as the Romans do. If I had tried that man in Memphis, he would not have gotten out of the penitentiary for 30 years."

Mr. HARRISON. Is there any other area besides the southern district of New York?

Mr. CUNNINGHAM. The sentences are quite light in Chicago.

Mr. HARRISON. What district is that in Illinois?

Mr. CUNNINGHAM. I do not know the judicial district. I think it must be the northern.

Mr. HARRISON. Any other area?

Mr. CUNNINGHAM. There may be isolated instances, but we will prosecute more cases in New York and Chicago. Some of the sentences in the northwestern part of the United States are not very severe. That is true in Oregon and Washington, but we do not have the problem there we have in the larger cities. The sentences in Philadelphia are uniformly weak.

Mr. HARRISON. Would it be possible——

Mr. BOGGS. What about the District of Columbia?

Mr. CUNNINGHAM. Well, they have been uniformly weak. The sentences in Baltimore, for instance, the minimum sentences are greater than the maximum in the District of Columbia.

Mr. BOGGS. Say that again.

Mr. CUNNINGHAM. The minimum sentences in Baltimore are greater than the maximum sentences in the District of Columbia.

Mr. HARRISON. The judges in the District of Columbia, who are lax in punishing any crime, are lax in this.

Could you file for the record a statement by Federal districts the number of cases that you have had over a year, or any period of years, and the number of convictions, and the average sentences for the first violation and the average for the second?

Mr. CUNNINGHAM. Over what period of time?

Mr. HARRISON. The most recent years.

Mr. CUNNINGHAM. Yes. It will take a little time to draw that out of the files.

Mr. HARRISON. Will it be much of an undertaking?

Mr. CUNNINGHAM. We will be glad to do it. What year?

Mr. HARRISON. 1950.

Mr. CUNNINGHAM. You want the judicial districts of the United States?

Mr. HARRISON. I would suggest that. What I would include in it would be the number of cases in each district, the number of convictions, the average sentence for the first violation, the average for the second and subsequent violations, and the number of probations. I think that would be of value.

Mr. CUNNINGHAM. I will take it up with the lawyers and see. We will put them to work. It will not be too big a job if we can get something done and get them to put the peddlers in the penitentiary; I can assure you of that.

Mr. HARRISON. It would be interesting to bring out what the Federal judges are not doing in the way of their duty in this respect.

Mr. CUNNINGHAM. We will furnish that information as quickly as we can get to it.

I would like to add with reference to the statement I made about a comparison between the sentences in the Federal courts in Baltimore, and the city of Washington, the sentences in Washington have increased quite a lot in the last few years. I certainly do not want to be understood as not putting that information in the record when I do have it in my papers

Mr. BOGGS. You would probably find that these sentences differ from one judge and another and from year to year, and the question is whether or not you want to criticize the judiciary or the law. The law makes it a discretionary matter now.

Mr. CUNNINGHAM. I am critical of the law, not of the judges. I tried to point that out.

Mr. HARRISON. The penalty is provided under the law now.

Mr. BOGGS. It is a discretionary penalty.

Mr. CUNNINGHAM. Right.

Mr. HARRISON. Then we have to pass legislation because the discretionary feature is not being wisely exercised.

Mr. BOGGS. That is it exactly.

Mr. HARRISON. Let us not talk about its being the law's fault. There is no question about whose fault it is.

Mr. BOGGS. We will now hear from Mr. Julian B. Simpson and Mr. Charles Thompson of the Department of Justice.

STATEMENT OF JULIAN B. SIMPSON, ATTORNEY, CRIMINAL DIVISION, DEPARTMENT OF JUSTICE, ACCOMPANIED BY CHARLES THOMPSON, DEPUTY, ATTORNEY GENERAL'S OFFICE

Mr. THOMPSON. We do not have a statement in addition to the report that we submitted on the three bills last week. Of course, that report would be applicable to the new bill that you introduced in the last several days.

Mr. Simpson will be glad to answer any questions that the committee members have.

Mr. BOGGS. It is a very comprehensive report and approves the legislation, as I understand it.

Mr. SIMPSON. There were just two minor suggestions we had which have been corrected in the new bill.

Mr. BOGGS. They have been incorporated in the new bill?

Mr. SIMPSON. That is right.

Mr. BOGGS. We will incorporate into the record at this point the report of the Treasury Department and the report of the Justice Department. It is a very comprehensive report.

(The reports referred to are as follows:)

APRIL 2, 1951.

Hon. R. L. DOUGHTON,
Chairman, Committee on Ways and Means,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: Further reference is made to Mr. Davis' letters requesting on behalf of your committee the views of this Department on H. R. 1522, H. R. 2340, and H. R. 2645, bills to amend the penalty provisions applicable to persons convicted of violating certain narcotic laws.

The purpose of the proposed bills is to make more stringent the penalties which would be imposed upon persons violating the Federal narcotic and marijuana laws. They provide for the imposition of mandatory minimum jail sentences of 2, 5, and 10 years in conjunction with maximum jail sentences of up to 5, 10, and 20 years upon first, second, and subsequent narcotic offenders, respectively. In addition, they would prohibit the granting of suspended sentences or of probation to second or subsequent offenders.

Of the three bills in question, the Department favors the adoption of either H. R. 2340 or H. R. 2645, which are identical, subject to several amendments which are discussed following the presentation of its views supporting its recommendation.

In 1935 a study of narcotic convictions covering a 3½-month period disclosed that 40 percent of the persons convicted had been previously convicted of violating the narcotic laws. Figures compiled by the Bureau of Prisons for the fiscal year ended June 30, 1950, show that of 1,481 narcotic violators committed to Federal institutions with a sentence of more than 1 year, 63.6 percent were recidivists. Approximately 30 percent had three or more prior commitments.

The postwar years have seen an increase in the number of persons convicted of violating the narcotic laws. For the fiscal year 1950 there were 2,029 persons committed to Federal institutions which the largest number since 1940 and compares with 1,503 committed during the 1949 fiscal year. These figures do not include the number placed on probation which for 1949 was 398. The average sentence for narcotic and marijuana violators in the 1950 fiscal year was 23.1 months, not taking into account those placed on probation. The average sentence disclosed by the study made in 1935 was 24 months.

During the past 15 years of narcotic law enforcement there has been no increase in the average sentence but within the past few years there has been an increase in the number of violators convicted; particularly has there been an increase in the number with prior convictions for such offenses. The foregoing would tend to point strongly to the deduction that the punishment which has been afforded narcotic law violators has had no deterrent effect whatsoever. It also is interesting to note that since 1946 there has been a decrease of approximately 20 percent in the total number of sentenced Federal prisoners while during the same

period there has been an increase of approximately 20 percent in the number of persons sentenced for violation of the Federal narcotic and marijuana laws.

In a compilation of figures released by the Administrative Office of the United States Courts for the fiscal year ended June 30, 1949, the following appears:

One thousand five hundred and ninety-eight persons convicted and sentenced for violation of the Federal narcotics and marijuana laws.

One thousand one hundred and eighty-seven were sentenced to imprisonment. Of the foregoing number 4 received a sentence under 1 month; 120 were sentenced from 1 month to 6 months; 195 were sentenced from 6 months to 1 year and 1 day, 222 were sentenced to 1 year and 1 day; 262 were sentenced over 1 year and 1 day to 2 years; 189 were sentenced from 2 to 3 years; 152 were sentenced to from 3 to 5 years; 43 were sentenced to 5 years and over; 398 were placed on probation. The number placed on probation amounts to approximately 25 percent of those convicted and sentenced.

The same source of information indicates some interesting comparisons. During the same period of time, of those convicted and sentenced for violation of the white-slave traffic only 19 percent were placed on probation. It appears also that 9.3 percent of those convicted and sentenced for that offense received sentences of 5 years or more while the percentage of those convicted and sentenced for violation of the narcotic laws receiving a sentence of 5 years or more was only 2.7. The white-slave traffic is, of course, most reprehensible and debasing but hardly more so than the nefarious trafficking in narcotic drugs. The figures for another type of offender, the counterfeiter, disclosed 10.4 percent received a sentence of 5 years or more.

In an effort to determine if more severe penalties are necessary in order to curb the violation of the narcotic and marijuana laws, it may be helpful to look at the recidivism in such violators. Of the nearly 400 convicted in 1949 (fiscal year) and placed on probation, 15 percent had prior convictions for violation of the narcotic laws. Half of those having prior convictions had two or more. One had as many as nine prior convictions.

During the 1949 fiscal year 1,067 persons convicted of violation of the Federal narcotic and marijuana laws were committed to Federal institutions under a sentence of more than 1 year. Of that number 796 or 46.5 percent had two or more prior convictions for Federal law violations. There were 371 known to have had three or more prior convictions. Of all the persons sentenced to more than 1 year, 384 received a sentence of 2 years or more, yet of the persons sentenced 112 had two or more prior convictions but did not receive a sentence for as long as 2 years.

In summary, it may be stated that the average sentence of persons convicted of violation of the Federal narcotic and marijuana laws (exclusive of those placed on probation) in the year ended June 30, 1950 was 23.1 months which is slightly less than the average sentence disclosed in a survey made 15 years ago; that during this 15 year period the number of persons convicted of narcotic violations has fluctuated up and down, but during the past 4 years there has been a steady increase in convictions while there has been a decrease in the number of persons convicted and sentenced for violation of all other crimes; that recidivism among narcotic violators has increased greatly during the past 15 years; and that the percentage of persons receiving sentences of 5 years or more for violation of the narcotic laws is less than the percentage of persons receiving similar sentences for violation of the counterfeiting and white-slave traffic laws.

In connection with the amendments to the bill which are respectfully submitted it is noted that there appears to be a typographical error at lines 16 and 17 on page 3 of the bill. Beginning at line 16 the words "or parts V or VI of subchapter, subchapter C of this chapter", should be deleted.

It is the Department's view that the phrase "until the minimum imprisonment for a second or subsequent offense, as the case may be, shall have been served" which begins on line 11 and ends on line 13 on page 2 and which appears also on page 4 beginning on line 4 and ending on line 6 is surplusage and could well be omitted. The sentences in which the above-quoted phrase appears should read "Upon conviction for a second or subsequent offense, the imposition or execution of sentence shall not be suspended and probation shall not be granted."

It is suggested further than an amendment should be made to those parts of sections 1 and 2 of the bill which relate to the offenses which shall constitute a convicted person as a second or subsequent offender. Because most of the narcotic laws have been amended at some time and because the codification of the internal revenue laws repealed those laws and then reenacted them into the code it is believed advisable to specify exactly the laws, the previous conviction of

which, shall constitute a previous offense for determining if a person is a second or subsequent offender.

It is submitted therefore that the sentence beginning on line 13 and ending on line 18 on page 2 be removed and the following substituted therefor.

"For the purpose of this subdivision, an offender shall be considered a second or subsequent offender, as the case may be, if he previously has been convicted of any offense the penalty for which is provided in this subdivision or in section 2557 (b) (1) of the Internal Revenue Code, or if he previously has been convicted of any offense the penalty for which was provided in section 9, chapter 1 of the act of December 17, 1914, 38 Statutes 789, as amended; section 1, chapter 202 of the act of May 26, 1922, 42 Statutes 596, as amended, section 12, chapter 553 of the act of August 2, 1937, 50 Statutes 556, as amended, or sections 2557 (b) (1) or 2596 of the Internal Revenue Code enacted February 10, 1939, chapter 2, 53 Statutes 274, 282, as amended."

The same suggestion is made with reference to the sentence beginning on line 6 and ending on line 12 on page 4 and the following substituted therefor:

"For the purpose of this paragraph, an offender shall be considered a second or subsequent offender, as the case may be, if he previously has been convicted of any offense the penalty for which is provided in this paragraph or in section 2 (c) of the Narcotic Drugs Import and Export Act, as amended (U. S. C., title 21, sec. 174), or if he previously has been convicted of any offense the penalty for which was provided in section 9, chapter 1 of the act of December 17, 1914, 38 Statutes 789, as amended; section 1, chapter 202 of the act of May 26, 1922, 42 Statutes 596, as amended; section 12, chapter 553 of the act of August 2, 1937, 50 Statutes 556, as amended; or sections 2557 (b) (1) or 2596 of the Internal Revenue Code enacted February 10, 1939, chapter 2, 53 Statutes 274, 282, as amended."

The proposed legislation would entail no additional annual cost other than the additional cost which might ensue from lengthier confinement.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

E. H. Foley,
Acting Secretary of the Treasury.

Hon. Robert L. Doughton,
Chairman, Committee on Ways and Means,
House of Representatives, Washington, D. C.

March 30, 1951.

My Dear Mr. Chairman: This is in response to your request for the views of the Department of Justice relative to the bills (H. R. 1522, H. R. 2340, and H. R. 2645) to amend the penalty provisions applicable to persons convicted of violating certain narcotic laws.

H. R. 2340 (which is identical with H. R. 2645) would amend the Narcotic Drugs Import and Export Act and the Internal Revenue laws relating to narcotics (opium, coca leaves, and derivatives) and marijuana, so that the possible penalties for serious violations thereof would be uniform. It would impose a uniform fine for each offense, would fix minimum and maximum prison terms for such offense depending on whether a first or subsequent one, would deny suspension of sentence or probation for second and subsequent offenses, would broaden the scope of what would constitute a prior offense, would for the first time impose the increased penalties for second and subsequent offenses upon marijuana law violators, and would preserve the procedure for establishing the prior offense as it now exists with respect to narcotic-law violators.

The bill fixes a maximum fine of $2,000 for all of the offenses covered thereby and minimum and maximum prison sentences of from 2 to 20 years. It provides that the punishment shall be fine and imprisonment, and that for second and subsequent offenses, the imposition or execution of sentence shall not be suspended and that probation shall not be granted. It would require a separate trial, if desired by the defendant, to determine whether or not an offense is a second or subsequent one. The prior conviction, if it were for any of the offenses encompassed by the bill need not be identical with the subsequent offense, to require the imposition of the increased penalties imposed on conviction for the subsequent offense.

To accomplish its purpose the bill would by section 1 thereof amend section 2 (c) of the Narcotics Drugs Import and Export Act, as amended (21 U. S. C. 174); by section 2 thereof would amend section 2557 (b) (1) of the Internal Revenue Code (26 U. S. C. 2557 (b) (1)); by section 3 thereof would amend section 2596 of the

Internal Revenue Code (26 U. S. C. 2596); by section 4 thereof would amend section 3235 of the Internal Revenue Code (26 U. S. C. 3235); and by section 5 thereof would repeal section 2 (f) of the Narcotics Drugs Import and Export Act, as amended (21 U. S. C. 174), the act of August 12, 1937, as amended (21 U. S. C. 200–200 (b)) and sections 2557 (b) (5), (6) and (7) of the Internal Revenue Code. The bill has the usual saving clause as to rights or liabilities under existing laws repealed.

While the Department of Justice strongly favors legislation of this nature, there are certain features of the measure to which the committee may care to give further consideration.

In the interest of clarity, it is suggested that the following changes be made in the bill:

1. Line 16, page 2, and line 9, page 4, after the word "of" insert "or has previously pleaded guilty to."

2. Line 23, page 2, and line 17, page 4, after the word "prior" insert "conviction."

3. Line 2, page 3 and line 22, page 4, after the word "jury," insert the words "or the judge, if the defendant consents thereto." (If this is done, the words "by the jury" in line 4, p. 3 and line 24, p. 4 should be stricken.)

These suggestions are made so as to assure a previous offense being considered a prior one, even though a guilty plea had been entered. Also, it would seem that it should be possible for a defendant to waive a jury trial on the question of his identity.

It is also suggested that periods be inserted after the word "granted" on line 11, page 2, and line 4, page 4, and that the remainder of the sentence reading "until the minimum imprisonment for a second or subsequent offense, as the case may be, shall have been served" should be eliminated. This language is somewhat ambiguous and would appear to be contrary to the established rule relating to probation which holds that suspension of execution of sentence and the grant of probation is not lawful, if service of the sentence has begun. It is contrary to the very concept of probation.

The potential fines under existing laws range from $2,000 to $10,000, whereas, in the bill, the maximum is $2,000. However, the prison terms remain substantially the same, except that with respect to marijuana law violations, the minimum prison penalty for first offenses would be less, but for second and subsequent offenses greater. While the bill fixes a maximum fine of not more than $2,000 and imprisonment of not less than 2 or more than 5 years for first offenders, the court is not precluded from suspending sentence or granting probation.

Since the principal deterrent to narcotic-marijuana law violators is the possible prison sentence, and the prison sentences proposed in the bill appear to be adequate, it is not believed the lessening of the potential fines would be harmful. The bill on the whole would seem to be helpful in dealing with the grave law enforcement problems arising from the nefarious traffic in illicit narcotic drugs.

H. R. 2340 is preferable to H. R. 1522 because, among other objectionable features, the latter would not fix a minimum sentence for any offense, whether the first or subsequent, and would not provide a procedure for establishing prior convictions.

Accordingly, the Department of Justice recommends the enactment of the bill either in the form of H. R. 2340 or H. R. 2645.

The Director of the Bureau of the Budget has advised that there is no objection to the submission of this report.

Yours sincerely,

PEYTON FORD,
Deputy Attorney General.

Mr. BOGGS. I do not know what more you could add. I would like to ask one or two questions.

You heard the examination by Congressman Harrison. You feel this legislation is necessary?

Mr. SIMPSON. The Attorney General, through his Deputy Attorney General, has so indicated in a letter to the chairman of the committee and also in this report.

Mr. BOGGS. You feel, also, the enactment of this legislation will definitely go a long way toward eliminating the traffic in narcotics?

Mr. SIMPSON. I believe that only time will show that, but it should help.

Mr. BOGGS. You have cited some figures in your report about the counterfeit and the white-slave traffic. In both instances you showed that the penalties were much more severe. Do you feel that that has contributed to the decline in those crimes?

Mr. SIMPSON. Well, I do not recall that being our report on this particular bill.

Mr. BOGGS. It may be in the Treasury Department's report. We thank you very much.

We will now hear from Mrs. Lois Higgins.

I would like to say that Congressman O'Brien, who is a distinguished member of the Ways and Means Committee, was very anxious for you to testify on this legislation. He wanted me to say to you that he was very strongly in favor of the enactment of the legislation. We shall be very pleased to hear from you.

STATEMENT OF MRS. LOIS HIGGINS, DIRECTOR, CRIME PREVENTION BUREAU, CHICAGO, ILL.

Mrs. HIGGINS. Thank you very much, Mr. Chairman and members of the committee.

Mr. BOGGS. Suppose that you identify yourself for the record.

Mrs. HIGGINS. I am Mrs. Lois Higgins, police officer for 13½ years, city of Chicago; crime prevention coordinator for the municipal court and director of the crime prevention bureau.

The crime prevention council, of which the bureau is the operating staff, consists of the top of the law enforcement agencies and the board of education of the city, county, and State, and includes the United States district attorney.

The ex officio members are the Governor of the great State of Illinois and the mayor of the city of Chicago.

I would like to call attention to an error in the blue folder that you have there.

On the first page it reads that it came into existence in 1941. It should be 1949.

When this crime prevention council came into existence, of which the Honorable James Boyle, State's attorney of Cook County is chairman, it was obvious that these department heads would not be able to devote their whole time and attention to the job of coordinating the agencies in crime prevention; therefore, each one of those agencies designated a representative to serve full time in his behalf.

I came into that bureau as assistant representative representing the police. A few years later the chief justice of the municipal court asked me to serve as his representative, having had experience in the court of domestic relations, and having been a probation officer in the juvenile court prior to that. I served as director until recently, then I became director.

With reference to Congressman O'Brien's interest in the matter, if I did not pay my respects to him for the amount of work he has put in in his efforts to help us in Chicago, particularly in this area, and in others as well.

I would also like to say at this time that I concur in what the honorable Congressman, Mr. Yates, said in his statement. I felt that it

was very fine. It explained the problem that we are facing. It stated what had been done and recommended what should be done.

I would like to say that the court established Monday morning and which is now presided over by Judge Gibson E. Gorman of the municipal court, as the result of long months of planning and of initiation of ideas of the crime-prevention bureau. This is just one of the many fronts on which we have worked. We have, as a demonstration, prior to this special court, asked the chief justice to designate a court through which all narcotic cases could be handled. One was available at that time, the women's court, and provided facilities for both male and female. Also the court calls had lessened a bit, so that from November 10 until last week we used that court.

However, certain factors were present—that the boys 17 to 21 still went to the boys' court. So, based upon the need that we have proven to ourselves and the members of the council and to all other people, the misery court, as he calls it, was opened.

Dr. Andrew C. Ivy, vice president in charge of professional schools, University of Illinois, has served as chairman of the physicians' committee on narcotics for the crime prevention bureau since October 16, 1949.

I point this out to show you that the bureau has worked on the problem of narcotics as early as October of 1949. We realize that it is not only a large social problem, but a problem that concerns doctors, psychiatrists, psychologists, educators, phrenologists, criminologists, and all the people that might be concerned with this.

The crime prevention bureau, I think you will see from that report, has attacked this problem from a scientific viewpoint. We called in all those people to work with us. We have had a legislative committee as part of the crime prevention bureau headed by the Honorable Daniel J. Ronan, a representative of the Twenty-first Senatorial District.

For 1 year we held what we called prevention hearings on legislation concerning three things—narcotics, sexual offenders, and firearms.

I would like to submit a copy of the transcript of the proceedings of that meeting for the record, at which Dr. Ivy was elected chairman of the physicians' committee, and also a copy of the legislative committee hearings we had, at which Warden Sain, Chester Fordney, Dr. Kelleher of the Psychiatric Institute, John F. Boyle, and people who are dealing with the law as it is every day, came to tell us what was wrong with the law as they saw it, and how it could be improved or strengthened. I will supply that to you.

(The information referred to is as follows:)

TRANSCRIPT OF PROCEEDINGS OF THE CHICAGO CRIME PREVENTION COUNCIL ON WEDNESDAY, OCTOBER 19, 1949, AT UNIVERSITY CLUB, CHICAGO.—SUBJECT: NARCOTICS

The Honorable John S. Boyle, State's attorney, Cook County, Ill., presided as chairman.

Chairman BOYLE. First of all, we are very grateful to you gentlemen for coming over here today. We started this Crime Prevention Bureau about two months ago, and people seem to be very much interested in it.

The big problem is narcotics. We have found that, in certain sections of the city, peddlers go so far as to inoculate teen-agers free of charge over a period of time, so that they will become addicts. In the month of September, there were 337 arrests in Chicago alone of addicts, many of them teen-agers.

We have found out that these addicts are absolutely no good to the community; they cannot hold a job, and when they become addicted to narcotics in teen-age groups, they are likely to spend 40 to 50 years of their lives as addicts. They must steal each and every day $50 worth of goods in order to get enough to spend on narcotics to keep them going.

We lock them up in the house of correction, but it doesn't do much good, because, when they come out, the first thing that they do is go get a shot. We have found that that is true, not only in the house of correction, but I understand that other authorities have the same experience elsewhere.

You doctors know more about it than anyone else, and so we have asked you to come here today. This crime problem is quite a thing.

We have about 4½ million people in Cook County; it is the largest county in the world. In view of the large number of indictments we have to return in this county, we have a sort of mass justice—that is what it amounts to.

The problems involved in the spread of narcotics are big, and they are growing and growing. Years ago, the Government used to be able to stop the source of supply. But now, as in Detroit, St. Louis, Minneapolis, and other large cities there seems to be a lot of it coming in to this particular area. And it is one of the causes of crime.

Years ago, when I was assistant State's attorney, I prosecuted some cases that I want to tell you about, and I mention this not because you are doctors, but because you were selected as the victims.

There was a series of incidents in which fellows went out and held up many doctors, and the doctors were too busy to report the fact. These fellows checked the telephone book, and figured out a list of doctors to call on.

In one instance, they called up a doctor and asked him to come to a certain place, saying that child was ill, and they met him at that place and, at the point of a pistol, they took $20 off of him, and then shot and killed him.

That can happen to many doctors, and the reason we have asked you to come here today is that we feel that the narcotics problem is not so much a law-enforcement problem as it is a medical problem. You are the only ones that can help us. Something has got to be done, and I think we should discuss the problem at this table.

Perhaps Commissioner Prendergast can tell you what has been happening the last couple of months.

Thank you.

Commissioner PRENDERGAST. Sixty to seventy percent of the districts in Chicago are crime centers, but most of the crime centers in the Third, Fourth, Fifth, and Seventh Districts. That is the district running from Twenty-second Street to Sixty-seventh Street.

I was quite alarmed about the situation in one district, and I went down there and talked with some businessmen who were acquainted with the problems of the district. I met one man there who seemed to be especially aware of the situation, and I asked him over to the car, and asked him why there was so much crime down there.

He said, "Don't you know?", and I said I didn't, and then he told me about the dope-peddling activities centering about one of the night clubs down the street, the Congo, I believe it was.

Later on, I went into the police station there and I talked with a very smart sergeant there, Sergeant Nelson, and he told me the same story.

I have my files in my office, and I don't want to burden you gentlemen with the substance of those files, but we took off some statistics from the report for the month of September 1949. There were 337 arrests of dope addicts in the city of Chicago for that month alone. We will average that every month, with most of the arrests being made on the near-South Side.

A group of men from one district dropped into my office, and told me about narcotics being sold and used by the youngsters in that area.

I called my squad car, and sent them out there, and in 7 hours we had seven persons arrested. One of them who was peddling the stuff was a girl of 14 years of age. She was getting it from a man on Calumet Avenue who had previously served in the house of correction for the same offense.

A dope addict, a narcotic addict, hasn't enough stamina to work. It costs him from $7 to $40 a day, 7 days a week, for the "habit." They haven't the stamina to work, so they go out and steal, and I say that that is the reason that area south of Twenty-second Street leads all the remainder of Chicago in crime. It is the center of the narcotics trade. When we try to learn where it is coming from, the best we can get is that it is coming from the coast by automobile.

The other day I was talking with a man who is familiar with the problem, and I asked him how they are selling it. He told me the seller will pick up a buyer, ride him around in an automobile for an hour and a half, or 2 hours—as, of course, he is always afraid of a "tail,"—and after that hour and a half or 2 hours, when he is satisfied that he isn't being tailed, he will tell the buyer to give him the money, and after he has the money, he will say to the buyer, "Go over to that third bush there, and you will get your supply." He leaves, and the buyer goes over to the bush or whatever secret hiding-place has been named, and picks it up.

I have had experience with the addicts. I told some of the doctors here before we came in about an incident when some of them walked into one of our State Street stores in the middle of the day and removed the furs from the State Street windows, and walked out the door with the furs. You never know what they are going to do.

Marijuana is, of course, a different subject. It grows wild in and around Chicago. A man will go out and plant the seeds in the middle of the prairies and then comes back when it is in bloom and pulls it out, and peddles it the best way he can.

From marijuana, they graduate into either cocaine or heroin. In my last report, I found more heroin sold than cocaines.

They use all kinds of contrivances to inject morphine and heroin and cocaines. They haven't enough money to but a syringe, so they buy an eye-dropper, and with a needle and a little adhesive tape, they made a pretty good syringe.

What alarms me more than anything else is the youngsters. In the last month, we arrested six under 17 years of age, who were using cocaine or heroin. I would say we will average six or seven or eight every month. These are youngsters going to school. There was a little girl out on the far South Side of Chicago, she was 14, and she was disposing of it.

I don't know what we can do about it. The courts have been very fair with us. We send them to the house of correction, and the county jail, and slap heavy fines on them, but it hasn't done too much good. There is only one place in this section of the country where you can go voluntarily for a cure, and that is in Kentucky.

Chicago is the center of the country. I think Chicago should take the lead in a program aimed at making good citizens out of some of these addicts. Each and every day they need a certain supply, and, as I said before, it costs them, on the average, it costs them from $7 to $10 a day.

During my time in the police department, I have encountered a great many of these addicts, and I know what they will do for the stuff. Take a man in need of some dope and a revolver is put in his hand, and he is told to go out and get the money, he will do it. It is a curse on the man or woman who uses it, and it is a curse on the community.

We know they destroyed China with the opium trade. There are certain people in our country who want to destroy our Government, and we don't know whether that element is sponsoring the advancement of the use of narcotics, or not.

I am quite alarmed about it. I know what the narcotics problem is. I have seen the addicts on the floor, jerking their clothes apart. And I know that cure is very hard, and not very successful. We want to take care of the youngsters, because the youngsters of today are going to rule the Chicago of tomorrow.

It is a pleasure for me to be here, gentlemen. I don't know the answer. I wish I did. It is my hope that the medical world might come through with some thought that would remedy this situation.

Chairman BOYLE. I think we should turn it over to the doctors now. We have failed, and the only thing we can do is to try to stop the source.

Dr. THOMPSON. Who controls the narcotics distribution in Chicago?

Chairman BOYLE. Who controls it? Illegally, you mean?

Dr. THOMPSON. Yes.

Chairman BOYLE. That is something I don't know.

Dr. THOMPSON. It is probably on a national basis?

Commissioner PRENDERGAST. I think it is. I don't know if it is coming from Luciano, in Italy, who was once in control of that situation. Whether he is continuing in control, I don't know.

Dr. RYAN. You think it is coming from the west coast?

Commissioner PRENDERGAST. I would say, if I were in the Narcotics Unit, I would give more attention to the west coast.

Dr. RYAN. It is manufactured in the Orient.

Commissioner PRENDERGAST. I would give the west coast more attention. Many of the hoodlums are centering in the west coast.

There is a terrific amount of profit in it. The original buyer breaks it down with milk of magnesia, and by the time it reaches the individual user, it is very weak.

Chairman BOYLE. I would like to hear from the doctors, if we could, I feel that they have done more for the community than anyone else.

This problem isn't like cancer or tuberculosis; you must remember that the patient who has this disease is a menace to the community. Teen-agers who are becoming addicts are becoming menaces to the community. There are 5,000 addicts in Chicago.

Commissioner PRENDERGAST. That is low.

Dr. SULLIVAN. I would like to get this straightened out in my mind. Dr. Ivy is a pharmacologist, plus, plus, plus, and I'd like to have his opinion.

These people wouldn't commit crimes if they had enough morphine, or whatever they are using. They have to go out and commit crimes to get the money to pay for it.

In other words, what I am getting at is that, if we could have a legal source of supply, they would not be obligated to dig up all that money, day by day, for the amount they need.

How about that, Dr. Ivy.

Dr. IVY. It is a tough problem. The consensus of opinion is that it is more difficult to cure heroin and cocaine addicts than it is to cure morphine and marijuana addicts.

It seems to me that there are two ways that this problem might be solved, and I feel that both methods will have to be utilized at the same time.

Now you are primarily interested in the immediate difficulty in Chicago. Now, as I analyze it, it means that some method will have to be developed to cut off the source of supply that comes to Chicago.

Another approach is that addicts are going to have to be picked up, and confined. Now, in the case of heroin and cocaine addicts, until we are sure that we have a method that will cure even a small percentage of them, they are going to have to be committed until a medical board will release them, as cured; and the same thing will have to be applied to the morphine and marijuana addicts, where the hope for cure is a little larger.

As long as there is a demand in Chicago of 10,000 addicts for the drugs, there is going to be a tremendous effort on their part to get the drugs. If the source of supply is completely shut off, then they are going to go somewhere else to get their supply, unless they are confined. What would happen is that merely cutting off the source of supply would only scatter them some place else.

I don't know what the law is. I thought there was a law which would permit the authorities to commit the heroin and cocaine and morphine addicts to a Federal or State institution. I don't know whether that is true, or not.

Both of these approaches, cutting off the source of supply, and confinement, will have to be done at the same time.

Chairman BOYLE. As I understand it, they can't cure cocaine or heroin addicts if they have been using it for several years?

Dr. IVY. That is the general opinion.

Chairman BOYLE. Marijuana is not habit-forming, they say.

Dr. IVY. It is habit-forming, in a sense. There is no doubt about that. According to some definitions of the word "addiction," marijuana is not addiction, but is habit-forming.

Dr. SULLIVAN. It is a fact that very few of these people acquire addiction accidentally? Isn't it largely congenital instability in these people that leads them to take up alcoholism or some form of drug addiction?

Dr. IVY. That is true in some cases, but it is known, on the basis of excellent evidence, and I refer to the two books on the subject of addiction by the United States Public Health Service, that people may become addicted in hospitals by injections of morphine. There is a wide range of susceptibility. Some people will develop a desire after three injections, while others require 20 or more to develop the desire. If the morphine is used to combat severe pain, the craving is developed to a much less extent.

Dr. SULLIVAN. That is relatively rare.

On the South Side, there is a doctor who takes care of a large number of addicts in his practice, and the Federal Narcotics Bureau practically licenses him to take care of these people. It is practically an open book, and they know he is taking care of certain people.

Inasmuch as addiction is difficult to cure, why not provide a legal source whereby they could get the supply necessary at a relatively low price? That would automatically eliminate some of the crime.

Dr. THOMPSON. I have seen a lot of these fellows; 346 died of heroin addiction in 1 year.

I don't know whether it would be a good solution or not. It might be. When they need the drug, they are driven to crime; but it is when they are hopped up that they have the greatest courage.

Dr. IVY. It is appeasement, and personally and temperamentally I am against appeasement in an issue of this sort.

Dr. SULLIVAN. My experience is very limited. I know that one individual uses 4 grains a week, and performs a very good job in one of the hotels in the Loop. He has had two coronary attacks. He is an addict.

Chairman BOYLE. We are not worrying so much about the adults, as we are about the teen-agers.

Dr. HLETKO: Dr. Ivy made these good points, to first cut off the source of supply, and secondly, to incarcerate any known addict.

Chairman BOYLE. I don't know. We all recall the noble experiment of prohibition and know that didn't cure the problem of alcoholism. I venture to say that in a short time some of these narcotics would be synthesized.

The teen-agers are the ones we are worrying about; we should try to prevent them from becoming addicts.

I think there is an excellent opportunity to start an educational, preventive campaign. We should appoint someone in the schools—teacher or psychiatrist—to tackle the problem at the first impact of any of these drugs in the school.

Dr. KELLEHER. One point that Dr. Ivy made about incarcerating these people is that we don't have the facilities in this State, and I don't know of any other State that has the facilities, except the Government.

The only persons we can place in our mental hospitals are the people who are mentally ill. The dope addict, who is under the influence of any drug, no matter what it is, has to be proved mentally ill, or he is not eligible for admission. But the minute he clears up, he must be released. All it amounts to is a sobering-up period. That is all.

I don't think anybody knows how long a dope addict has to be under treatment in order to be cured. We have seen good results in the treatment of addiction, but they have been long-term affairs.

The basic thing of addiction is a personality disorder. They need to have an injection to put them on their feet, so they can stagger on from day to day.

Dr. IVY. I should heartily endorse this proposal of an educational program, and I think that it would be a good idea to form a group that would go into the high schools and present this program. The sooner the better.

But so long as we have these 10,000 addicts in our midst, we have a cancer that can counteract and dilute a lot of the benefit derived from any educational campaign.

Dr. THOMPSON. It has to be attacked both ways. From the medical standpoint, it is almost the same in Chicago as it is elsewhere.

There should be someone in the schools that the teacher can fall back on. A nurse can sometimes get into the confidence of the child more easily than the teacher. All possible forces should be utilized.

Dr. HLETKO. All these come together. The police department has done a very good job, but they need help. The schools, churches, everybody has got to get behind this in a terrific publicity campaign.

Chairman BOYLE. The commissioner and I are alarmed about this situation, it is growing so rapidly. You don't frighten the Commissioner very often, but I know he is alarmed by this situation, and that word isn't even strong enough.

In years past, it was possible to stop the source of supply, but we are unable to do it now. It is coming in here, and I know it isn't coming from the physicians. I don't think they have anything to do with it.

Commissioner PRENDERGAST. There's a tremendous profit in it.

Dr. VAN DELLEN. Prevention is the only thing we can strike at. The long-term program goes back to reeducation. Most of these people are immature; it is a psychiatric problem, nothing else.

Now, how much living conditions, and that sort of thing, the social aspects, play in this role. I don't know, but I think you are going to have to deal with an ideology, and part of that ideology is medical and part of it is temperamental, I would say.

A solution will be found. Alcoholism falls in the same category, and I think crime falls into the same category. It is the same type of individual.

It is one of the biggest problems that we have. I agree with Dr. Ivy that we should put them away. They are of little use to the community.

Dr. IVY. They are a greater expense to the community if they are stealing than they are when they are being kept.

Dr. SULLIVAN. Speaking about educational programs, some years ago there were sexual talks in the Chicago public high schools. A report on one of our better districts brought out the fact that some 52 girls were pregnant, and a number of them had left school and went to Florida to live.

Maybe education is a stimulation to curiosity. This educational campaign might open the eyes of some of these youngsters, and make them try to find out what it is all about.

Commissioner PRENDERGAST. I believe that the average youngster starts out to get a thrill. It irritates me, and saddens me, to see these youngsters of 14, 15, 16, and 17 taking up drugs.

Dr. HOFFMAN. We have no way of taking care of all these people that are in crying need. If you take away the drug, you are dealing with a psychopath, and we can't incarcerate every psychopath in the county. You can handle them through the law and through medicine. Psychiatry isn't all the answer; I think psychiatry has been overplayed. It is also a social problem. We need a law to commit them.

Dr. KELLEHER. It is a police problem, and as we can see by the concern expressed by the State's attorney and by Commissioner Prendergast, it is a very serious police problem. It needs the concerted efforts of all groups concerned with the problem.

I agree with those who say we need a commitment law, and the police must do what they can to eliminate the source of supply.

We see these addicts every day, and we bring them to the judge, and tell him this is a case of psychopathic personality and drug addiction. We cannot certify that individual to the Psychopathic Hospital, unless we can say that at that time he is psychiatric.

Furthermore, when we talk about this problem, we have to face the fact that there isn't enough room.

The answer is a new set of laws, and institutions for dealing with these people. It needs a lot of money to staff them.

I have heard it implied here that psychiatric treatment of all these people is valueless, but I don't think that it is. The value of treatment differs with the various classifications, and with some classifications it takes a considerably longer time for the treatment to be effective.

I think the outstanding thing that has happened this year was the move to establish psychiatric facilities at St. Charles. A committee was appointed to investigate that, and their report was to the effect that psychiatric treatment proved effective in this teen-age group.

To argue that psychiatric treatment would not be effective would be like going to the Chrysler plant and seeing a lot of stock cars on the floor, and then advise people not to buy them, since, you say, they haven't been proved.

There are five clinics in Chicago to which you can refer these people for treatment. When we call up the clinic, they tell us their case load is so high that they don't think they can take anybody else on.

In individual cases, we practically beg them to take an individual on, saying that he is a person who can be reestablished as a useful member of society.

Finally, we are told to send him along in 6 weeks, and, after his first appointment, he may get other appointments every month or 2 months.

That isn't treatment; it is a pretense. And that happens everywhere. I don't know any answer, except that someday we must get hold of a lot of money to treat them.

I am willing to go on record to say that the addicts, as a group, have never been adequately treated. We have never had an opportunity to treat them adequately, and I don't know what would happen if we could confine them for 1 year. I believe they should be confined in an institution that has a sufficient psychiatric staff to deal with them and until that day comes, I don't see the justification for saying that psychiatry has failed. Everybody here is a potential case.

Chairman BOYLE. Everybody?

Dr. KELLEHER. Everybody, including myself.

I think most of these people could be successfully treated, but in the case of a person of borderline intelligence, or psychopathic personality, I think we would have to say we are stymied.

But I do believe the answer is to coordinate the efforts on the part of all the people involved. I would agree that an educational program should be started in the high school, or even in the grammar schools, under the circumstances, and

particularly in those areas that are so badly off economically, culturally, and socially. And I don't think the factor of curiosity is going to give us any difficulty. It is a matter of the right kind of education.

I read in Sunday's paper a good illustration of what is happening with the wrong kind of education. A certain community, rather wealthy per capita, a small community, established a new school. It was to be a modern, progressive school, and it was to have a program of sexual education. There were 23 girls involved, with an average age of 10 years, and of these 23, 7 became pregnant the first year following the sexual education program.

The people in this community were not used to dealing with juvenile problems and they called in a Scottish judge to try to disentangle the situation. His report was succinct, as Scottish people usually are, and, in his report on the investigation, he pointed out that part of the sexual education amounted to a teacher taking groups to stock farms to observe the sexual behavior of the animals, whereupon they went into the fields to do likewise.

Of course, no psychiatrist would recommend sexual education of that type. It isn't education; it is something that someone thinks is education.

I believe that the right kind of education would not lead to excess curiosity, and produce more addicts.

Dr. SULLIVAN. Commissioner Prendergast mentioned that some do take up drugs out of pure curiosity.

Dr. KELLEHER. It is the unstable individual who will do that.

Dr. IVY. The answer to this last question is rather obvious. We don't have an increase of illegitimate births on account of all the farm journals in the United States. I don't think curiosity is the answer.

Dr. COGGESHALD. Most of these poor results have been due, I think, to poor educational practices. It is the unstable individual who succumbs.

If you give a shot of one of these compounds to a kid on the farm, the boy will vomit out, and go about his business. But, in the proper atmosphere, he becomes an addict.

It is a social problem, as well as a medical problem. There is no medical answer alone, and there is no law-enforcement answer alone. It is prevention, and prevention does mean reeducation, and you can't laugh off education as a general term.

We need to get the schools and the churches and the community together, to save some individuals who would otherwise become addicts. A good job can be done.

I would like to endorse the educational program. There must be incarceration and cutting off the source of supply, and punishment. Since this problem is growing so rapidly, there must be some educational effort.

Chairman BOYLE. In some cases teen-agers are given free shots over a period of time, to get them into the habit.

Dr. PISZCZEK. They are trying to make addicts out of them.

Dr. COGGESHALL. It is only the unstable kid that would do that. Most of the kids have more intelligence than we usually give them credit for.

Dr. HLETKO. What is needed is a total push method.

In the final analysis, if they have been taking the stuff for a period of 2 or 3 years, you are going to find that there are going to be different kinds of addicts, just as there are different kinds of alcoholic addicts. Some are amenable to treatment. When they take alcohol for 15, 20, or 25 years, the alcohol becomes part of the personality, and there is no hope for that individual.

Chairman BOYLE. Not even Alcoholics Anonymous?

Dr. HLETKO. No; not when the alcohol has become a part of their basic personality. The stress of life gets too great for him, and it is hard to reach him psychiatrically and get him to discard the alcohol and stand on his own feet once more.

Dr. KELLEHER. It is a form of escapism. We have hundreds and hundreds of thousands not able to afford treatment, and we tell them they need treatment, but we don't know we can get it for them.

Dr. HLETKO. I think the education of the youngsters concerning this problem would have some very good results. They don't have the feeling of insecurity as adults understand the phrase. There's a little family dissension or a little sexual maladjustment.

Chairman BOYLE. It is not the consensus of opinion here that a man who is an addict is absolutely incurable?

SEVERAL VOICES. No.

Dr. KELLEHER. Treatment is difficult, and prolonged, and has to be done in confinement. They cannot be treated when they are still in the community and able to get hold of narcotics.

Dr. COGGESHALL. Not informers; they don't want to go to informers.

Dr. RYAN. There should be an organized effort on the part of the high-school group.

I wonder how many here feel that an education effort is indicated?

Dr. HLETKO. It is definitely indicated.

It seems to me that an educational program that would keep them from going into accidental addiction would be very fruitful, and through school physicians and nurses children in need of help could be referred.

Commissioner PRENDERGAST. I believe the problem can be helped through the schools. The church, I don't think, enters into it, because the average lad of this sort does not attend a church. I don't know. As I say, we get them from 14, 16, 17, and 18 years. I should think the educational program would do a lot of good, and we can reach into these youngsters. They take it for the thrill, not because of the physical element, or pain. More for a thrill than anything else, and we have found that they start with marijuana, and then cocaine and heroin.

I don't think you can take a man who has been using drugs for the last 10 or 20 or 30 years; I don't think you can cure that man. I don't know one addict that was using cocaine—"on the coke," as they say—that was really ever cured.

I am interested in the youngsters, 14, 16, 20, 21, as I say. That is why I am glad to come here today to find out from you men who have given it study and thought, if there is any chance of bringing those people into the right atmosphere.

I have seen the users. I have seen them tear their clothes when they are unable to get it. And they will do anything when they are loaded. I know of one case where they went into a State Street store and took out some 9 by 12 rugs from the fifth floor.

Chairman BOYLE. One of the doctors here tells me that heroin is illegally manufactured.

Dr. HLETKO. Yes. It is a derivative of opium, and some chemists can synthesize it and make it over.

Chairman BOYLE. Before we came to the table here, I was told something about the drugs demerol and metaphen. We haven't run into them.

Dr. OLSTER. But you will.

Chairman BOYLE. Commissioner Prendergast has found more cocaine than ever before in Chicago.

Commissioner PRENDERGAST. In my last report I found that heroin was very common.

Chairman BOYLE. I would like to move the whole committee to make this attempt to lay out some educational plan in the school system of Chicago.

Dr. OLSTER. It ought to be possible to set up some system, so there would be someone in the schools to whom these youngsters could report.

Chairman BOYLE. Not the truant officers; they won't go to them.

Dr. THOMPSON. A child will never go to a truant officer. He may go to a teacher, or a nurse.

Commissioner Prendergast, I would like to ask who is in control of the distribution. I should think the Narcotics Division would have some information on who is in control of the situation in Chicago.

Commissioner PRENDERGAST. I don't know. The Government could answer that, maybe.

Dr. THOMPSON. It is obviously on a national basis.

Chairman BOYLE. The answer is that they haven't appropriated enough money to stop the importation. That is why they are able to bring it in.

Dr. KELLEHER. I think that several of us feel that the source of supply is primarily in this country. I think maybe that is why some of the questions have been asked. I don't believe that the doctors are in a frame of mind to believe that all of the narcotics supply is imported. There is a suspicious origin of much of it in this country. It has been brought out that chemists are able to synthesize it. Any good chemist working with opium can produce heroin because it is one of the derivatives.

Commissioner PRENDERGAST. You may have the answer.

Dr. KELLEHER. It is a feeling on my part; I have the feeling that much of the supply originates here.

Dr. OLSTER. They still have to get the crude opium.

Dr. SULLIVAN. Dr. Kelleher, your statement presumes that there is a tremendous amount of money behind this.

Dr. KELLEHER. Yes, indeed. As Commissioner Prendergast said, the traffic is enormous.

Chairman BOYLE. They don't have to pay any income taxes.

Dr. THOMPSON. The problem is very important, it is so big. It involves not only opium derivatives and cocaines, but a lot of other things.

I should agree very heartily that an adequate educational program is very important for our problem. It involves all the agencies that are interested in the problem; not only the physicians, and the various law-enforcement agencies, but all agencies that are interested in civic improvement.

The Chicago Medical Society will be very happy to cooperate with you in any way possible to help out in this program.

Dr. KELLEHER. What should we do about the question of the law not permitting these people to be confined?

Dr. HLETKO. That is a big problem, what we are going to do with these people.

Dr. KELLEHER. In order to be committed, they must be psychiatric at the time. Occasionally you see someone who is toxic, as a result, possibly, of some sudden overdose. During that time we cannot commit him, for his condition may be such that 48 hours later all of that picture would be changed. By the time we get him to court, he is, to all intents and purposes, legally sane, and cannot be committed to an institution for treatment; and the question is, how we can manage it, so that we can confine these people long enough to know just how much good we can do for them.

Spending 6 months in the house of correction, or the county jail, isn't much help. Very few of them come out of there and stay off it. The average one runs for his supply as soon as he gets out.

Dr. PISZCZEK. Commissioner Prendergast has challenged the importance of the church in this thing. He admitted at the same time that it is an area problem, and I think the church, as well as all the other forces, should be brought into the total picture, because they have the future of the community at stake.

Dr. KELLEHER. I can understand the commissioner, because religion is one of the things we ask them about. In 99 percent of the cases, it is marked "No form of religion; former religion so-and-so."

Dr. PISZCZEK. But they are still part of that area of the community.

Commissioner PRENDERGAST. Religion is being very hard-pressed, and I believe that if the ministers, priests, and rabbis don't get off their seats and go to work, their churches will crumble into dust within 25 years.

Dr. PISZCZEK. Not all of them?

Commissioner PRENDERGAST. No; not all of them. I go to practically every denomination myself.

Dr. IVY. We need a commitment law. Any addict is mentally incompetent, not only when he is under the influence of the drug, but even when he is out from under it. His judgment is deteriorated, and it is easy to demonstrate that, particularly in the case of alcohol.

When they are under the influence of alcohol, they get an impression that is entirely erroneous, and they carry over that impression to the sober state, and it is very difficult to correct, even when you present the actual evidence, as I have found out by studying on my own graduate students.

When they were under the influence of alcohol, they got the impression they would turn in a much better performance than when they were under the influence of alcohol before they corrected their idea.

And one of the difficulties with the majority of alcoholics is that they say they are not alcoholics, and they don't want to be cured. And the same thing, of course, is true, but even to a greater extent, of the so-called narcotics addicts, morphine, cocaine, and so on.

Dr. HLETKO. Dr. Ivy is absolutely right, but we have medical and legal definitions of mental illness, and in this State we operate under the legal definition of a mental illness.

Dr. IVY. It is said that here in Chicago the laws are 25 years behind the medical sciences, as far as the needs of this law are concerned.

Dr. HLETKO. The law is, is he a danger to himself, or to the others in the community.

Dr. IVY. If they can't be incarcerated, it seems to me there are only two solutions left. One, cut off the source of supply. Here there are two possibilities that it is being brought or that it is being manufactured in Chicago or in the United States. Secondly, education with the idea of preventing addiction, and

if we are going to carry out such an educational program, it must be set up by a group of experts so that no ill will result.

Chairman BOYLE. Why not have a committee of all the doctors in this room today, with Dr. Ivy as chairman, and I think we could work this out?

Dr. IVY. Please don't make me chairman. I have all the work that I can do now.

Professor CHERRY. May I say, in connection with any work that may come up, or any work connected with this committee that may be organized now, we will undertake the work in the crime prevention bureau; we will do all the work. It needs only a telephone call to us, telling us what you want done, and you will have it done very promptly.

I have a staff not only enthusiastic about the work in the short time that we have been in existence, but I am afraid that it is attaining the proportions of an obsession with my staff. They will be willing to handle anything they are called upon to undertake.

Chairman BOYLE. We are all agreed that there should be an educational program starting with the schools, and there should be a plan formulated to be turned over to Dr. Cherry, who would, I am sure, carry it out. All he wants is your help and ideas. You don't have to do a lot of work individually.

Dr. THOMPSON. We must get all the forces in the community behind this movement.

Dr. OLSTER. These peddlers will move out to some other place.

Dr. THOMPSON. Certainly this drug traffic is a national problem. Is the Crime Division of the FBI interested in the problem?

Chairman BOYLE. The Narcotics Division operates under the Treasury Department, not the FBI. The FBI intervenes only when it is a question of crossing State lines.

Dr. PISZCZEK. Federal penalties are more severe than local ones.

Dr. BUNDESEN. I would like to say we are all agreed that the drug addict is a slick person and not a sinner, and if we can approach it from that point of view, put it in that way, we might get the same results that we did from our venereal-disease campaign.

It used to be that we locked them up in hospitals, and used them as criminals, until all of a sudden the whole philosophy changed and they went into the hands of doctors, and we got a lot of publicity on the subject, and today we have the problem of venereal disease practically all worked out.

And it is interesting to see how all the groups are being brought together here in this discussion—the church, and the home, and the law-enforcement agencies, and the medical professions, and the schools; it is the job of all of them.

When they went on the radio, and other places, and adopted a philosophy that when you expose a condition to the cleansing light of universal knowledge, that condition was licked, because the enemy always maintains itself on ignorance and public indifference.

It is like the time we were beginning to know certain things about ballistics, and there wasn't enough money for the program, and overnight a fellow went to some men and got $100,000 from them, and a laboratory was set up, and within 1 year gang-land murders were cut down from 700 to 70.

I don't think we should take a defeatist attitude about this drug problem—not that I think anyone in this room is taking a defeatist attitude. It is everybody's job, and it calls for the help of the medical profession to help clear it up.

The job that was done in the clean-up of the venereal disease campaign could not have been done without the wholehearted backing and support that the 6,000 or 7,000 medical men gave it; when they got behind it, it went over with a bang.

I am sure that when the medical profession gets behind the drug problem, I am sure that we can do the same type of thing as was done in ballistics and crime detection, when a laboratory was provided for overnight, and I am not speaking from hearsay, as I happened to be the fellow that got the hundred thousand dollars from Burt Massey.

On the basis of what has been done before, I am sure that we have a good yardstick to go by.

And we must always remember not to stress the jail part of it. It is interesting to notice how many of these people come in voluntarily.

We have 10,000 drug addicts in Chicago out of 4,000,000 people. That is bad enough, but it could be an awful lot worse, and I think there is enough brains in this group here to organize for the State's attorney and for the commissioner a plan that will bring to fruition something definite and tangible.

I think the idea of appointing a committee an excellent one, and I think it is a superexcellent one to take someone who has had such a terrific background as Dr. Ivy, and make him chairman of the committee. I know that he has never yet turned down a public official, so I know we have picked the right man for the job.

Chairman BOYLE. Thank you, Dr. Bundesen.

If you gentlemen could develop a shot for curing addiction, our troubles would be over.

Will you accept, Dr. Ivy? I know you are loaded down, but it is the busy man that has the time to do these things.

Dr. IVY. Commissioner Prendergast helps us in the medical field, and if he asks me, I won't say no.

Chairman BOYLE. John, if you don't ask him, I am going to slug you.

Commissioner PRENDERGAST. Of course, Dr. Ivy, we are all interested in Chicago. I love Chicago, and I think it is the greatest city in the world. I think Chicago should take the leading part in this program. Chicago is the No. 1 city of the world. I am going to ask you to become chairman of this committee.

Dr. IVY. I accept.

Dr. THOMPSON. Broaden that to Cook County, and Boyle and I will agree with you.

Commissioner PRENDERGAST. All right; Cook County, too.

I hope you gentlemen can get away from your work for an hour or so, and spend a little time in our laboratory. I know that it would be quite a surprise for you to learn about the advances in crime detection that have been made.

We have the greatest crime-detection laboratory in the world. I know you doctors would be interested in it, and you have a standing invitation to drop into my laboratory and look it over. You would be surprised.

We are all interested in Chicago, in the development of Chicago, and I think Chicago should take the leading part in this, and many other subjects.

Dr. IVY. Dr. Thompson, do you have any committee that would cover this particular problem?

Dr. THOMPSON. No; but it might possibly come under the jurisdiction of our public relations committee.

Dr. IVY. I think there should be a special committee of the Chicago Medical Society, to cooperate with the committee that is going to be set up under the crime commission, Commissioner Prendergast and State's Attorney Boyle.

Chairman BOYLE. Professor Cherry is in charge of the crime prevention bureau. Its job is to prevent crime in the community.

Professor CHERRY. We expect to assemble all the available information from every possible source concerning narcotics here and elsewhere, in order to learn what they are doing about it elsewhere, and what we can do about it here in Chicago.

We will have a very fine basis for the use of that information with this committee, with Dr. Ivy as chairman. We can present the information to you, and have you evaluate it, and tell us what is practical and what is not.

I have learned a great deal here today. From time to time, as we get this information, we would like to have you look it over. One of our main objectives—I am not going to make a speech, I have very little left to say—one of our main objectives is to secure cooperation among the law-enforcement agencies, the professions, and all the social forces.

Properly directed, this campaign can become a great power in this community. It can become a power that narcotics can't defeat, and I think that with this committee, with Dr. Ivy as its chairman, we will have a great impetus to gather all this information, from all possible conduits, and ask you gentlemen to implement this for us.

As I said before, we are anxious and happy to do the work. We will undertake any kind of work that you lay out for us.

Chairman BOYLE. Is there anything else?

(No response.)

Chairman BOYLE. The meeting is adjourned.

CRIME PREVENTION BUREAU, SECOND MEETING OF THE LEGISLATIVE COMMITTEE—RE: NARCOTICS, HELD IN CHICAGO, ILL., ON MARCH 6, 1950

Present: Senator Daniel J. Ronan, chairman; Senator Arthur J. Bidwill; Senator Roland Victor Libonati; Representative Alan Best; Representative

Corneal A. Davis; Representative David I. Swanson; Representative John Gorman.

Also present: John S. Boyle, State's attorney; James J. Cherry, Director Crime Prevention Bureau; Dr. Lois Higgins, Assistant Director Crime Prevention Bureau; Daniel J. Ryan, County Commissioner; Dr. Edward Kelleher, Director, Psychiatric Institute, Municipal Court; Warden Frank Sain, House of Correction; Warden Chester Fordney, Cook County Jail; Dr. Ole Nelson, County Hospital; Lt. William J. Szarat, Director, Youth Bureau, Chicago Park District Police Department; James Doherty, Chicago Tribune.

The CHAIRMAN. The meeting is called to order. I will call the roll of the legislative committee.

The following members of the committee answered as being present: Senator Arthur J. Bidwill, Representative Alan Best, Representative Corneal A. Davis, Representative John Gorman, and Representative Daniel J. Ronan.

(Senator Libonati arrived during the course of the meeting.)

The CHAIRMAN. We had a telephone call from Senator Ryan who is down in Springfield and he won't be able to make it but Senator Libonati and Representative Arrington should be here in a short period of time.

I would like to call on Prof. James J. Cherry, the director of the Crime Prevention Bureau, who will say a few words of welcome to the people who weren't here at our last meeting.

Mr. CHERRY. Senators, Representatives, distinguished visitors and ladies, or lady, I think that includes all, I would like to welcome the distinguished visitors and thank them in advance for the great aid that they are going to be, I am sure, to us in this great problem we are tackling.

We have with us Colonel Hill, Judge Hill by the way. I don't know which should be the better to use. He is the assistant to the Attorney General of Illinois. We have also an attorney who has been in appeals work and brain work as we lawyers term it, book work, for several years in the attorney general's office who has been assigned by the Attorney General of Illinois and Judge Hill to this committee. He will undertake the legal problems presented, constitutional problems presented by such legislation as we may formulate at these meetings. James Murray here on my second right is the assistant attorney general who will be at your service for legal work along with we of the Crime Prevention Bureau.

In the last session, you may recall, I presented or outlined the history of the progress of the Crime Prevention Bureau. I will try to be brief here today for some of you have suffered from lack of brevity.

We would like to again direct your attention to the important work we are undertaking that is aimed at controlling, minimizing, the dope traffic that threatens to corrupt our young and enslave large numbers of our people. I am holding in my hand a clipping dated Washington, March 5, which points to a 35-percent increase in dope arrests noted for the last year, arrests in illicit drugs gained 35 percent in 1949, the Treasury reported yesterday. They totaled them at 5,273, more than 14 a day through the year. The Treasury also said the agents of its Narcotic Department, Customs Bureau, seized the marijuana, base ingredients of the reefer cigarette. There were 1,599 marijuana-case arrests last year, while more than 3,647 persons were taken into custody in cases involving such narcotics as opium, cocaine, morphine, heroin, and codein.

We have not, in presenting this problem to you, this evil, tried any scare methods. This speaks truly of what we are faced with, this great increase in the narcotic trade, and the arrests in connection therewith.

I want to thank you gentlemen for the fine meeting we had at the last session. It is being written up, the court reporter is working on it and it will be available to you in a few days or a little time in the future. I thank you.

The CHAIRMAN. Thank you, Professor Cherry. I will introduce the various people who have come down here to testify before us. The first one will be Warden Frank Sain, of the house of correction. Next is Warden Chester Fordney, of the county jail. Next is Dr. Edward Kelleher, director, psychiatric institute of the municipal court, Eleventh and State. Next is Lt. William J. Szarat, head of the youth bureau of the park district, and next is Dr. Ole Nelson, the medical director of the Cook County Hospital.

At the last meeting we had Lieutenant Mangin and Chief of Police Prendergast here to give us their information, and it was most beneficial.

What we are attempting to do here today is bring in the various people from around the city and county who handle the narcotic cases and ask them about their jails or place of internment or hospital which may be used for treatment of narcotic addicts.

The first one I would like to call on to testify, to tell us what we may expect, from the house of correction is Warden Frank Sain.

Mr. SAIN. Mr. Chairman, Senators, and distinguished guests, by the way, are those cases going to be police cases you are looking for?

The CHAIRMAN. Anyone that may come to the county jail or house of correction.

Warden SAIN. Through the courts; I see. Well, at the house of correction we have Schleetz' mixture, and I understand that is the outstanding treatment, and what we find in the house of correction is 60 percent of these cases are withdrawal cases. That means your bed patients. That runs from maybe a week to 10 days, and then the case goes in the fresh air and works.

We have schools and we are handling dope cases that come from the courts to us so we have a pretty good set-up out there and Dr. Coleman, our medical superintendent, praises Schleetz' dope mixture. We can take care of them at the Bridewell.

The CHAIRMAN. Do you have a separate place for them?

Warden SAIN. Dope addicts don't need any separate place in the hospital. There is no contagious disease of any kind. The first 3 or 4 days are pretty wild at times but we have them right in our open hospital upstairs and right today.

Mr. CHERRY. Do they object a good deal when they are taken off the drug?

Warden SAIN. Yes; they do.

Mr. CHERRY. Our legislators would like to know something about that and how they react when you have them in your custody, particularly at the beginning.

Warden SAIN. Naturally there are bed cases and they don't sleep at all for the first 3 or 4 days. Generally in a week we have them off that withdrawal and they are naturally no more hospital cases. When they come in, if they are bed cases, they need hospital attention and put them on that dope mixture. It seems that has opium in it because we have to be careful in using it and they get so many drops. There is a regular chart they give them which shows so many drops the first day, and so on, until about a week or 10 days has elapsed. Well, they get hospital attention, 60 percent of them do; the other 40 percent don't need any hospital care.

The CHAIRMAN. What is this mixture you give them?

Warden SAIN. That was made by a doctor, a medical superintendent at the Bridewell. I don't know what is in it. Dr. Nelson might answer that.

Dr. NELSON. That was used for the purpose of an antinarcotic. A doctor got this concoction up. His name is Schleetz.

Warden SAIN. I can get that mixture from Dr. Tobin and bring it down to you.

A VOICE. What does the mixture do; what is the end result?

Warden SAIN. There is no cure, I don't think. There is a temporary cure. It is the same situation you have with alcoholics.

A VOICE. What do you think of the personality of dope fiends? Are they a weak type of individuals?

Warden SAIN. Yes; the weak type.

A VOICE. Are they mentally deficient?

Warden SAIN. Without a doubt, they are mentally deficient.

A VOICE. What is the maximum time they are kept in the hospital?

Warden SAIN. It is in the house of correction. The minimum is any time. Dr. Coleman said a week or 10 days. That is all the hospital care they need. They are ready to go to work and get fresh air then.

A VOICE. How many repeaters do you have?

Warden SAIN. That is way up. Of the addicts, I would say 90 percent of them.

A VOICE. You mentioned fresh air. Do you have facilities in the county jail, I mean the house of correction, for that?

Warden SAIN. They work outside.

A VOICE. Do they work outside?

Warden SAIN. Yes.

A VOICE. Is there outside working facilities?

Warden SAIN. In the new program, we are going to open up the outside and find plenty of work for the inmates.

A VOICE. Is that work of a gardening nature?

Warden SAIN. They work in the junk yard and they work in the tin salvage, and work in the yard, and so on. Those are the outside ones.

A VOICE. In your contacts and experience with these inmates, so-called, have you ever been able to break down to the extent of ascertaining what particular type of narcotic they were using?

Warden SAIN. Some fellows are using marijuana and then others use heroin. The young ones are using marijuana. I am not going to come out on report but the young fellows are using marijuana. They are starting out with marijuana.

A VOICE. Have they confided in you as to the source of the supply of this marijuana? Or are they incommunicado where they don't want to disclose the source?

Warden SAIN. It is very hard to get them to tell. It is difficult to draw them out.

A VOICE. Have you ever found any peddler of this stuff?

Warden SAIN. They are always complaining; it don't do much good to get the little fellow.

A VOICE. The fellow that distributes it does not use it?

Warden SAIN. Those men, the small ones, are users. Most of them are users. The average of those the police pick up are users.

A VOICE. Have you an opinion from your experience as to what might be a remedy for this particular course we are facing? I want the committee to get the benefit of your experience.

Warden SAIN. Give them more time. Give them a larger sentence, a larger sentence to scare them and make it stiffer for the peddler. The courts will have to give stiffer sentences.

A VOICE. Sentence them long enough to rehabilitate them if such a thing is possible?

Warden SAIN. Yes. It takes about 12 days to get that withdrawal out of them and they fatten up and you would never dream they were dope addicts in the next month or two. They are in an institution without any of it, any dope, but you can only guess what is in their mind. You would have to ask Dr. Nelson about it.

Representative BEST. You don't know where they go or what they do when they are released from your house of correction?

Warden SAIN. Back to the old spots and meet the same old companions. And those fellows know where to pick up the stuff. Maybe they go to the same peddler.

A VOICE. Getting at the peddler is the crux of the thing; that is, to block the source.

Warden SAIN. That is where we should start.

Lieutenant SZARAT. If we develop a program in this area of narcotic addiction, and that program is developed fully, you are going to get a heavy case load in the house of correction. Can you handle the situation if we send you in too many?

Warden SAIN. We can help you out.

A VOICE. How many addicts in the house of correction?

Warden SAIN. I don't know.

Senator LIBONATI. You get them under larceny.

Warden SAIN. Sometimes. A lot of times an addict doesn't come through on an addiction case. He comes through on a larceny case.

Representative BEST. Is it your opinion the existing facilities of Cook County are equipped to handle the present sufferers using dope?

Warden SAIN. Yes. In the house of correction there are nurses and doctors that are willing to take care of them.

Representative BEST. Have you had any contacts with the insitution in Lexington, Ky.?

Warden SAIN. I don't know about that.

Representative BEST. Did the Federal institution do a good job of curing them?

Warden SAIN. A lot of them go back on the stuff. Some go back there.

Representative BEST. They are not doing any more than you are doing here?

Warden SAIN. That is a temporary treatment. I don't think they are doing more than we are.

The CHAIRMAN. We wanted to set up some sort of a rehabilitation unit. A regular rehabilitation unit separate from the other inmates of the prison.

Warden SAIN. If a boy came in under 20 I think he is entitled to the facilities we have there. It would be better to put him in a school. And the rest of them you could try to rehabilitate them through their own job or experience. If he was a painter, it would be foolish to take him out of his line of work and put him in another department. Put them in the departments they are fit for.

Mr. CHERRY. The condition in which these men and boys come in your institution, they are not ready for school or work for some time; is that true?

Warden SAIN. For 10 days they are not.

Mr. CHERRY. Do they suffer in that 10-day period of getting off the dope? I think the legislators would be interested in that 10 days. What do you do for them and how do they act.

Warden SAIN. They come in there and lay in one of the beds and their head is where their feet are supposed to be and they jump around and naturally the treatment tames them down. They are really sick for a while. The 40 percent of them that we are working with don't need any treatment at all—no hospital care. We find they are addicts and they are old timers and we have some of the old timers; why they have been coming back for 30 years or so.

Mr. CHERRY. During this 10-day period of suffering, do they need restraint?

Warden SAIN. Very seldom. We have had different cases that the police pick up and come out for first aid in the hospital. We fixed them up in the hospital. The police had taken them back to the station and by the time they got through the court they are all right.

The CHAIRMAN. Are they dangerous during this withdrawal period?

Warden SAIN. No.

Mr. CHERRY. Do they make efforts to escape?

Warden SAIN. Not after they are sick. They might try it afterward. They don't try it under a year, unless he is wanted in some other State or city. Naturally you keep your gates locked.

Mr. CHERRY. If arrests were available, could you expand your facilities there in the Bridewell or the house of correction so as to care for the additional load that may result from new legislation?

Warden SAIN. I doubt it.

Mr. CHERRY. If it would increase as this dispatch from Washington indicates, 35 percent, that is the Washington information we have for 1949, and it increased as much as 50 percent this year, could the load be handled with the present facilities?

Warden SAIN. No. Not if they come in too fast. If we had the money we could have a real set-up.

The CHAIRMAN. How many men have you over there?

Warden SAIN. It is about 2,300.

The CHAIRMAN. How many would be narcotic addicts. How many addicts?

Warden SAIN. Two or three hundred maybe. There are cases over there we wouldn't know unless we rolled up their sleeves to see if he was a dope addict.

The CHAIRMAN. It would be hard to tell the marijuana man?

Warden SAIN. Yes.

Senator LIBONATI. You said there was no cure. Why do you say they are incurable? Every viewpoint in medical science and from every outward manifestation of it, it attempts to cure by physical training and education of the fellow's mental attitude to prevent, and build up his resolution against using narcotics. Why do you say you kind of give up making a pretense of giving him a cure?

Warden SAIN. In the last 30 years, the addicts I met—and I am talking about marijuana—that is not dope. You don't class a marijuana smoker like a man that takes the needle. Many of the old timers that stay on the needle; 1 or 2 years and they are back again. They are repeaters.

Senator LIBONATI. Do you think people make up their minds they don't want to be cured?

Warden SAIN. I remember one woman, she was making the rounds of different clubs and that is how she was making her living. She told us how long she was on the dope and using it. She said she was off of it. We had a panel discussion afterward and I told the committee that I didn't believe her. They didn't agree with me. But 6 months later she was back in again, this same woman. Of course, it is the same way with drunks. There are so many rehabilitation cases in that field. The percentage we meet in the institution, naturally the percentage of them are hiding it. Many rehabilitate themselves on the outside. The ones we see are the shoplifters and thieves.

Senator LIBONATI. They do that to buy dope?

Warden SAIN. Yes.

A VOICE. In your number of years at the county hospital, you saw many doctors come and go; I mean at the house of correction. Was there any need for a specialist in medicine to handle these particular cases. Could an M. D. do it?

Warden SAIN. In the county jail we gave an addict a bromide.

A VOICE. It wasn't necessary to have a specialist?

Warden SAIN. We didn't have the facilities or the O. K. to use Dr. Schleetz's mix. All we gave them in the jail was a bromide. We had very few die.

The CHAIRMAN. Where do you get this mixture?

Warden SAIN. Our druggist puts it out. He put that up.

The CHAIRMAN. What is the percentage of women to men dope addicts?

WARDEN SAIN. There is a percentage with men in any crime, but it is so low in regard to men. I would say maybe there is less than 5 percent women in crime as regards to men. It is hard to compare women with men in crime.

The CHAIRMAN. After the people were treated in the Bridewell and sent home, do you think if they had an adequate home life that they would be able to overcome this or do you think they would come back in the picture?

Warden SAIN. Not for 6 months they don't come back. That is the cases we get through the courts.

Senator LIBONATI. Do you know the cure given in the Federal Hospital at Lexington, Ky.? Have you been there?

Warden SAIN. No; I haven't been there.

Senator LIBONATI. I understand they have experts in their profession and they claim there is a cure for a person and it enables him to withstand this temptation. There is a cure for those not addicted over 5 years. That is their statement.

Warden SAIN. I see.

Senator LIBONATI. Granting the education of the individual and the will of the man is sincere. Just like they made an effort in Alcoholics Anonymous and they build up the mental resistance in that person to withstand the desire for alcohol and they stay away from it under all circumstances. But they might become addicted to alcohol if they had a couple more drinks.

Warden SAIN. I am not going into the medical side of it.

Senator LIBONATI. You say there is a withdrawal period of 10 days or 2 weeks?

Warden SAIN. Yes; they get off that habit and they eat and they are ready for the outdoors. They are bed cases no more.

The CHAIRMAN. You mean regardless of their surroundings. In other words, if a person comes from an environment and gets mixed up with that type of person or that addict they are more or less incurable?

Warden SAIN. If he stays there too long, he will repeat. I have seen them come back from Lexington and get picked up in Chicago and they have been sent to the Bridewell or the county jail. We pick up an addict and give him 30 days in the house of correction. We must put some scare in them and make them fearful. It is so easy to go out and get their contacts. Now, they must have a fear that will keep them away from those things and by giving them 30 days or 60 days in the house of correction don't do them any good.

The CHAIRMAN. Any other questions of Mr. Sain? I guess not.

That is all, Warden, thank you.

The next witness is Colonel Fordney, warden of the county jail. What do you find in the county jail, the conditions there and the advisability of setting up a unit for these narcotic cases.

Warden FORDNEY. I have quite a number of prisoners who are classified as users of narcotics and they generally use it.

Our present method of handling them is cutting them off of it. We don't have any special medicine, but the doctors give sedatives in general bed cases. Since I have been there, that I know of, six cases had to be put under restraint. They were in terrible shape. We take them off and put them in separate tiers. They are a problem and it is more serious than that of Mr. Sain. Once they are users and they seem to have lost the desire after the withdrawal period they then still lie to get a needle.

One of my security problems is the preventing of narcotics being brought into the jail. We have had fine cooperation from the Federal Government.

We have had trouble with them putting narcotics under stamps. It is pretty easy to catch up with them and they send them by air-mail stamps and post it from Chicago. We are suspicious of that right away, of the letters they receive. They are wrapped up in paper, the narcotics, and put under the stamps so they won't be noticeable. We have to classify our prisoners. One is strictly the criminal type and they commit a crime to get money for narcotics and we had a young notorious 17-year-old-boy who was stealing an automobile a day to get money for dope. We gave him a sedative and the withdrawal period which is from 10 days to 14 days.

We have no trustees in the county jail, but we have workers and these cases, they are in the dormitory, in employment, and the dope cases are in the tiers. The dope addict wants to get in the dormitory and we have to be on the alert to prevent opiates being brought in. On visiting days, there is a glass between the

visitor and the one being visited. There is no way of handing anything across to him. Some does get in but it is hard to stop. It is a serious problem.

As far as my facilities for treating them I have a sick bay or hospital. There are beds and limited equipment, eight beds. I have to send the cases over to the Cook County Hospital and guards over there with the cases, and that puts a heavy load on my security. I am undermanned anyway. I have 1,300 prisoners in that jail. I can't give them fresh air like at the house of correction. I haven't the jail officers to handle the security problem. That prevents me from doing more in regard to keeping them off narcotics and keeping the narcotics from coming to them. They have different types of mentality. Some of them are low and some with very little and others have fair intelligence. But these are men of high intelligence but low moral scruples.

I can't put the dope addict in any one classification. Some of them are treacherous and sometimes they find a needle somewhere and so they are very hard to handle.

I can let them work in the yard but again my security requires my officers and I don't have the necessary officers to put with them. It is a very serious problem.

The CHAIRMAN. You don't have the facilities at the present time to care adequately for them?

Warden FORDNEY. No.

The CHAIRMAN. What do you think of the advisability of setting up a separate unit for dope addicts?

Warden FORDNEY. Fine. They are in for small crimes to get money for dope. That person then is a secondary criminal. I think they should have a place for them. I am not familiar with the treatment of addicts over a long period of time. A long time is involved to effect the cure.

I heard they have a very fine thing down there in Lexington, Ky. We have about 80 in now. But we never have them under Federal sentence.

The CHAIRMAN. How many addicts do you have at the present time?

Warden FORDNEY. About 80; yes, 80.

The CHAIRMAN. How is that broken down?

Warden FORDNEY. We have 80 out of 1,300 prisoners in the jail. I have a low percentage of women. Out of that 75, 5 or 6 women have a history of addiction. But they have a hospital of their own. Their confinement is much nicer than the other people in the tiers.

But now I believe that rehabilitation of some kind would be a fine thing for these addicts, some place where they could be treated.

A VOICE. What are women addicted to?

Warden FORDNEY. Heroin mostly. That seems to be more available than any other type of narcotic. Marijuana is easier to obtain. I don't have much knowledge of that. Our young people the teen-agers, seem to be marijuana addicts.

The CHAIRMAN. Any other questions?

Mr. CHERRY. Do you have some peddlers in the county jail?

Warden FORDNEY. Yes.

Mr. CHERRY. How many?

Warden FORDNEY. Twenty.

Mr. CHERRY. Are they waiting for trial?

Warden FORDNEY. Some waiting for trial and some serving time. How they happened to get in the State instead of the Federal, I don't know. Probably possession, that is usually the peddlers.

Mr. CHERRY. Are the peddlers addicted to drugs?

Warden FORDNEY. Yes; some are but we have the little fellow though.

Mr. CHERRY. Would you express an opinion as to whether these peddlers are organized?

Warden FORDNEY. I think they are. In my work with the Federal authorities they seemed to be well organized. We ran across one big syndicate in Cleveland and Chicago. The Federal people are successful in this work. I get some strong cooperation from them.

A VOICE. Do you have any trouble with traffic within the county jail?

Warden FORDNEY. Yes. We are always on the alert for that. One Federal officer came up to me and said a mother told him her boy had been a marijuana user. He was in the county jail for some small offense and he became a drug addict while he was in my jail.

A VOICE. Do you segregate most of the addicts?

Warden FORDNEY. Yes. If we cut him off, we try to do so. It is hard to get information about dope traffic from the people in jail.

We have to be on the alert all the time. It is a problem of security. I have 86 men in my jail waiting for murders and grand jury hearings. If you put them with the dope addicts, you have a difficult situation.

Mr. CHERRY. These prisoners or addicts that come in the county jail to you, they come in there on other charges. You spoke of a man that stole an automobile a day in order to get enough to buy dope.

Warden FORDNEY: That seems to be the major cause of their being in the jail?

Mr. CHERRY. Is there an examination given them to determine whether they are addicts?

Warden FORDNEY. We ask them if they used it. We have to depend on his word for it. They are given a physical examination though. Doctors are on the alert for marks of hypodermic needles and syringes. The doctors examine them and through their experience are familiar with those who have signs of being addicted.

A VOICE. When you discover they are addicts in the jail what do you do with them?

Warden FORDNEY. Put them in the particular tier devoted to these addicts and can't do anything for treatment. My treatment is security. Once we know who are the users it is easier to guard them. We put them in one tier.

The CHAIRMAN. Any more questions? I see not.

Mr. BOYLE. Did anyone ask him about the percentage of addicts?

The CHAIRMAN. He said 80 out of 1,300.

I see that is all. The next witness is director of the psychiatric institute of the municipal court, Dr. Edward Kelleher.

Dr. KELLEHER. My interest is in the field of psychiatry. We have heard here about the addict cases in our city and county. We have had an opportunity to work with these cases and there is considerable confusion in them. What we do in many cases with these individuals is confine them in a feeble-minded institution for a long period of time and by "long" I mean 2 or 3 years or possibly longer. And during that period there is rehabilitation on an occupational level attempted and there is success in a percentage of the cases. We find that some narcotic addicts are incurable neurotics and that is true of some of our sex offenders and it is true of our alcoholics. We would like the opportunity to study addicts. The percentage of our case load was not greater than 2-percent addicts. We hear of astronomical figures of the number of addicts supposed to be residing in this country and the greater part of them in the metropolitan areas. If that is the case, the psychiatrist is having little or no opportunity to study them or to work with them. There has been considerable discussion on the physical aspect and I think we are being led to believe the habit is physical, but we believe it is mental the same as alcoholism is. When we take a man into jail or State hospital and give him Schleet's mixture or any other such method, we are treating his physical aspect. If we try to send these people to a State hospital we have to have a psychotic individual or badly deteriorated individual. They say we cannot do anything for him and if we were to try, we don't have the staff and segregation, and it is the same story as that in alcoholism. Our prisons have only a therapeutic psychiatric staff and after that the treatment ceases.

I was interested in the first part of 1949 to see requests on the part of Mr. Leonard to get his psychiatric team working for treatment in the juvenile courts and at St. Charles. However, he was given a diagnostic unit. Most people think that psychiatry has not been able to do anything with the addict. I don't think we have had a chance to do anything, and we feel we should have that chance with the addict. In the communication I sent last week that Mr. Welter was kind enough to read I stated my feeling that these people should be confined in the penal institution rather than mental hospitals but in the confinement I would like to see psychiatrists work with these individuals and do research work on them. I am afraid if we don't have that we will fail in this mental hygiene work and we are going to find drug addicts, alcoholics and sex offenders on the increase. I think no individual should be sent into an institution for less than 6 months. I would be happy to see some laws that such a man would get 6 months and the maximum a year and a half. And the violence these individuals have toward others makes them at times people with criminal propensities. I would disagree with one statement made here that the man was not dangerous when he was withdrawing from his drugs. I have seen some very violent drug withdrawal cases and I have seen the individuals pick up heavy objects and attack others with no provocation.

Mr. BOYLE. Do you know of a person cured who was addicted to narcotics?

Dr. KELLEHER. I know a man who was addicted to heroin 13 years ago and I have knowledge he is not using it for the past 12 years.

Mr. BOYLE. That is the only one you know of?

Dr. KELLEHER. Yes.

Mr. BOYLE. Out of how many you have examined?

Dr. KELLEHER. Several thousand.

A VOICE. The reason some of them take dope is that they are in a mental state? They are depressed and after they become addicted it becomes physical and mental?

Dr. KELLEHER. Physical and mental. It would be mental really. The physical addiction can be removed quickly.

A VOICE. The suffering they go through after having the stuff taken away from them is physical?

Dr. KELLEHER. Both. He will fight with five or six people and he has no chance of overpowering them but he will still attack them. He will put up a physical battle when you threaten him with taking him some place in order to help him.

A VOICE. After the physical side is taken care of do you think something could be done on the mental side through psychiatry?

Dr. KELBEHER. In a percentage of cases; yes.

A VOICE. Did I understand you to say that the difficulty in taking care of these cases in penal institutions is the lack of psychiatry, because it is plainly a mental problem we have to face?

Dr. KELLEHER. You should have psychiatric treatment put in the institutions.

Representative BEST. Do you have a psychiatric viewpoint as to whether these patients should be segregated?

Mr. KELLEHER. We believe they should be segregated. And under the present existing conditions, being what they are, I would prefer putting these addicts in penal institutions rather than mental hospitals.

Senator LIBONATI. The penal institution is worse so far as security is concerned, and this being a mental condition, you want to keep these fellows away from the morbid surroundings of the prison, and rid him of that feeling that he is an ex-convict. Mr. Boyle said that these unfortunates that we speak of are not the real criminals, but the peddler is, and these people are driven into crime in order to raise money to buy dope. We want to place them in a position where we can help them cure the habit and throw off these shackles.

Dr. KELLEHER. That is what we should have.

You want to put them in an institution and not give them a prison sentence?

The CHAIRMAN. An institution to rehabilitate them; yes.

Dr. KELLEHER. Some of them get off the drugs and then go back to it because they have that type of personality. Some of them use alcohol for drugs and then go back to drugs.

Mr. BOYLE. Do you think these people have a psychopathic personality that use drugs?

Dr. KELLEHER. Yes.

Mr. BOYLE. Are they the only ones that use drugs?

Dr. KELLEHER. A pathological personality, we don't believe none of them have a normal personality. Somebody like you and I could go to the hospital, and get narcotics when we are ill. We wouldn't have the urge to go and get drugs after we were released. There are other individuals who will get one or two doses of narcotics and continue.

A VOICE. Any person here could, under certain circumstances, become an addict by taking drugs?

Dr. KELLEHER. Theoretically, but from a practical standpoint of psychiatry that would not be so.

A VOICE. People will smoke marijuana and then go to opium?

Dr. KELLEHER. Yes.

Mr. BOYLE. Opium is not habit forming?

Dr. KELLEHER. Not as much as heroin, cocaine, and others.

Mr. CHERRY. Since you have been director and head of the municipal court, psychiatric division, have you noticed any increase in the number of addicts?

Dr. KELLEHER. The increase is still not marked. An average of 1 percent over a period of 7 years.

Mr. CHERRY. Has it affected the youth?

Dr. KELLEHER. Not under the age of 17, but an increase in the use of marijuana in the age group of 17 to 25.

Mr. CHERRY. Under 17 they are handled at the juvenile court?

Dr. KELLEHER. Yes.

Mr. CHERRY. We have figures on the juvenile cases.

Dr. KELLEHER. Marijuana is not habit forming but opium to a degree and the others are.

Mr. BOYLE. What about paregoric?

Dr. KELLEHER. Paregoric is habit forming. About the same degree you will find in bromide.

Representative BEST. When you have repeaters up for psychiatric examination do you question him as to what made him go back on the stuff? Do they tell you who sold them the stuff or somebody sought them out and sold them the drugs?

Dr. KELLEHER. The answers we get to the question are a great deal like the ones given by alcoholics. There is no consistent answer for it. There is no answer why they go back on it.

A VOICE. There seems to be some differentiation between the types that would go in a home or institution devoted to addicts. Some would only go in when apprehended, through the commission of a crime. Some are minor crimes and get minor sentences. Would you put a demarcation along the line between the so-called addict who is there because of a bad habit and the serious offender?

Dr. KELLEHER. From a psychiatric standpoint the addict is an addict regardless of the crime committed, and we would like to send them all away. We would like to see them get treatment. That reminds me of a case the other day. One of the judges came in and said he had a boy in, who was in five times in the last 2 or 3 months for exposing himself. The man is guilty of an offense. Psychiatrically the man is an exhibitionist. He is not dangerous, never will be. The only thing he will ever do is shock people by exposing himself. He does need psychiatric treatment.

Senator LIBONATI. About this treatment again. You could send these people to the penitentiary after they are cured. The addiction of narcotics isn't a defense to crime. Do you think these people take drugs to alleviate tension and nervousness?

What about our youth in the high schools that take marijuana? Last week we had testimony from the police department that groups are organized that smoke marijuana after school hours, and they get in flats on the near north side, and what do you attribute the addiction to those narcotics to?

Dr. KELLEHER. We have that hysteria in teen-agers from 16 to 17 years of age and they are amenable to all sorts of those things. Because these individuals go in on the marijuana, that does not necessarily mean they are going to be narcotic addicts. A few of them will continue with marijuana, and transfer from marijuana to some other narcotic. The same thing would happen if they drank whiskey. There would be a low percentage of them that would become alcoholics.

Senator LIBONATI. Do you think if we had an educational program whereby we could inform the teen-agers the condition of addicts before and after taking drugs and the evils that come with the taking of drugs, that would be a help in preventing teen-agers from smoking marijuana and getting a start to other drugs?

Dr. KELLEHER. I am in favor of a very extensive educational program on a preventive basis. I think that is one of the things that could be introduced. There will be a certain element in the young people that will fall in with the crowd. We would like to see something done in an educational field and done by parents in bringing up their children. Many of the children come from broken homes, they are traveling from town to town with no religious training except what they got in the early years about 7 or 8 years old. Nobody goes to church in the family and most of our trouble is in the home like that. I think some education has to be aimed at the parents, and the people who take the place of the parents. I am afraid if we do not get that we will not get anywhere.

Senator LIBONATI. Our teachers in our schools are practically mothers and parents to the children for the greater part of their life while they are in school. They can help these boys and girls.

The CHAIRMAN. Let us stick to the law.

Are there any more questions of Dr. Kelleher?

Thank you, Doctor.

The CHAIRMAN. We are considering places we might use for the use of curing addicts. We thought of our Cook County Hospital and Dr. Nelson who is medical director of the County Hospital. He is here to tell us what we can expect from the county hospital so far as helping the narcotic addict. Dr. Nelson.

Dr. NELSON. I don't believe they will be of much help. Narcotic patients come up there in the general hospital. They need constant watching and you can do that in a private hospital. We found that in a few cases we do have.

We get a fellow in there with pneumonia and find out he is a narcotic addict and some friend of his brings him in a drug. We don't take them. Narcotic cases must be sent to the Psychopathic Hospital.

The CHAIRMAN. What do you think of the advisability of setting up a separate ward?

Dr. NELSON. You would have to build a new building. We have a Psychopathic Hospital and we cure them of the physical condition. They come to us for induction treatment. They can't afford to buy narcotics at that time and later they go back and buy some more. We put them in the medical ward.

Senator BIDWILL. What is finally done with them?

Dr. NELSON. There is a hearing and they are committed to a State hospital.

Senator LIBONATI. You would have to have a new set-up of facilities to care for more of them?

Dr. NELSON. Yes.

Senator LIBONATI. You have men on your staff that could be interested in specialization of this type if it were absolutely necessary, haven't you?

Dr. NELSON. Yes.

Senator LIBONATI. If they don't voluntarily go to the psychopathic ward, you discharge them and they are still addicts?

Dr. NELSON. Yes.

The CHAIRMAN. The only time the addict comes to the hospital is when he goes to the hospital for sickness?

Dr. NELSON. They get sick and we have them there.

The CHAIRMAN. Thank you, Doctor. Mr. Boyle has come down again to this meeting to testify on what his office feels is necessary in the way of new laws on narcotics.

Mr. BOYLE. You asked for a report and asked our office to set up what we thought would be proper changes of the present law.

(1) We suggest the present law of the laws be changed to provide for treatment of drug addicts.

(2) Have the first offense changed to a felony. Anybody that peddles the stuff should go to jail. It is our opinion they should get 1 to 5 years.

(3) The peddlers should have increased penalties. We should make selling to minors a felony with 1 year sentence, with a minimum of one and a maximum of life. John Prendergast suggested at the last meeting we have that. He said that where they catch someone peddling dope, and he is arrested two or three times, and sentenced to jail two or three times, they should send him away for life because he is someone who is ruining the community. And he has some cases where they gave free shots to a 14-year-old girl so she could become an addict.

(4) Set up hospital treatment in the county jail, house of correction and juvenile detention home. Last year we had 81 juveniles who were addicts. Those are children under 16 years of age. You must remember that those are the ones that get in trouble. Many become addicts at that age.

(5) Set up special treatment under the department of public welfare or public safety. Set up some sort of an institution where you can treat the addicts. That has nothing to do with the peddlers.

(6) Provide a voluntary commitment with probation by which the person confined voluntarily takes the cure. The Government has that set-up now where they come to the Government voluntarily and go away for 6 months, and take the cure. We should have some sort of set-up where persons who are addicted can voluntarily come into our State institutions. When these persons go there and are found to be cured we can dismiss the criminal charge against them.

(7) I suggest you add to the drugs listed in the Illinois statute the following: Paregoric, demerol, and metaphene, or any new drug that is developed that migh be habit forming.

Under the law now, peddling is a misdemeanor and we suggest you make it a felony and give them 1 to 5 years in the penitentiary. And for second and third offenders, particularly where they sell dope to minors, when you have a case where 14- and 15-year-old boys and girls are sold dope by a man 40 years or age, we should bury him.

A VOICE. They need some fear. They need fear, these peddlers of narcotics.

Mr. BOYLE. Get rid of the peddlers and you will get rid of the addicts.

Representative BEST. We had some discussion on fraudulent prescriptions that were used to secure drugs.

Mr. BOYLE. I have talked to the Druggists Association and they have agreed that at any time any prescription comes in that is suspicious, they will call the doctor and find out if he wrote such a prescription. They agreed to do that.

A VOICE. What do you think about the curfew law? That is the ordinance on the curfew law.

Mr. BOYLE. Persons under a certain age must be off the streets at 10 o'clock.

The CHAIRMAN. I would like to call Commissioner Daniel Ryan, chairman of the finance committee who will be helpful in case we have need of more funds.

Commissioner RYAN. We would be governed by the medical staff at the county hospital, and the three universities also. And they would see to establishing a ward over there. It is a State problem and we are not supposed to treat these cases over there. We are to hold them and it is a clearinghouse sort of.

The CHAIRMAN. Could a unit be set up in the Psychopathic Hospital?

Commissioner RYAN. No room at all. There might be in the county hospital. In the Psychopathic Hospital they had to move the so-called nervous ward, and move that over to the county hospital.

Senator BIDWELL. In connection with the State and city, would the county be willing to cooperate with us in this work of setting up a separate place for these people?

Commissioner RYAN. Yes.

The CHAIRMAN. We have one more witness and he is Lieutenant Szarat, Director, Youth Bureau, Chicago Park District, Police Department.

Lieutenant SZARAT. We are interested in this work. We must educate our police officers in regard to narcotics. We learned that many officers because of their lack of knowledge of narcotics and even with marijuana cigarettes fail to recognize this evil. We found boys and girls smoking marijuana cigarettes while they were on the corner talking to an officer and the policeman didn't know what it was. We should have a training program in the police department in regard to narcotics and marijuana.

Most of those smoking marijuana are between 12 and 17 years of age. We should train our police to be able to recognize these drugs and marijuana. In the juvenile court I handled a majority of cases over there and we get offenders who are using marijuana cigarettes and heroin and because of the lack of facilities there is no treatment. If we could get a place to help cure them it would be fine. We have this juvenile situation. We can set up a temporary treatment center in the city of Chicago somewhere where we can send these people for treatment. We should have temporary treatment facilities and I hope at this meeting we will be able to develop something along that line. We should have the cooperation between the police, State, county, and city and the State's attorney's office in this work. That is necessary to attain the objectives which we seek.

The CHAIRMAN. Any questions, please? I would like to say that Mr. Murray is here from the attorney general's office and it is my understanding he will be here for subsequent meetings and when we present that bill perhaps we can get a couple of opinions from the attorney general's office as to the constitutionality of the proposed bill. The last two bills were unconstitutional.

If there are any further questions let us have them.

All right, we will adjourn this meeting until April 3.

(Whereupon an adjournment was taken to April 3, 1950.)

Mrs. HIGGINS. I am here today, first and foremost, as Director of the Crime Prevention Bureau. In that capacity I bring to you the greetings of the heads of the 10 agencies of the crime prevention council, the body that organized the Bureau.

These 10 agencies, with the single exception of the Board of Education, are law-enforcement agencies vitally concerned with crime prevention and control, as well as apprehension and conviction.

Our problem is not new to some of the members of this committee who have studied it with obvious interest. There are other Members of Congress who have studied it with great interest.

Congressman Yates and I have been corresponding since February. It is because of their interest that I am here today.

So that all the members of the committee may become acquainted with the purposes of the crime prevention council and the bureau, I would like to distribute to you pamphlets and other informative material emanating from our office.

You are here in the interest of determining whether or not additional facilities are required for effectively combating the narcotic menace. I am here to tell you that they are not only needed, but urgently and desperately and immediately needed.

I want to bring to you the sense of futility and frustration all law-enforcement agencies feel—because of the lack of facilities to properly treat the problem of addiction and addicts. We need your help, gentlemen. We need it desperately. I only hope that I may be able to convince you of that today.

What is required to effectively combat the narcotic plague? First and foremost, a campaign to acquaint every citizen with the dangers that exist. This cannot be done unless we are prepared to shout the facts; shout them in such a manner that no one may not hear; shout them so that every citizen will feel the menace that is this lingering death.

They are bitter, tragic, shameful facts. We dare not try to sugar-coat those facts; we dare not try to evade them by burying our heads in the sand.

One of you gentlemen asked the relationship between addiction and crime. The reason we are so concerned about addiction, per se, is because a study that was made in the summer of 1950 indicated to us that 60 percent of the crime committed within the city of Chicago was committed in just a very few police districts. Those few police districts are also concerned with the greatest amount of traffic in drugs and narcotics.

Therefore, if we follow that reasoning, we say to ourselves, if the drug traffic can be cut down the amount of crime should be cut down.

I refer you to the figures that Congressman Yates gave telling you the number of areas, and I would like to say here and now there were 4,437 people arrested in the city of Chicago—arrested in 1950. Out of that group 1,017 were minors, and 89 of them juveniles. The youngest in the juvenile court, out of 93 cases that appeared in the family court last year, was 12 years old.

We have had peddlers as young as 14, and girls. The transcript of our record will bear that out.

Gentlemen, somewhere right at this minute a little boy like yours, or a little girl like mine, is getting a first taste of the needle; it is going into their veins; into their blood streams. Their blood streams are coursing the drug that will soon destroy them.

Mr. Cunningham has told you that he thinks much of this is hysteria. To those of us working with the problem today I think that that would be a very simple explanation. The crime prevention bureau organized the truant officers. We asked them to call a meeting at which we had one of the men from the Narcotics Bureau show them a display and explain to them the different narcotic drugs, show them what they looked like, let them smell them, let them see what they looked like in their form before they are inserted into capsules.

The reason for giving the officers additional information on this was that they could recognize the boys and girls who were smoking; they could detect the odor, instead of perhaps talking to someone on the street and failing to realize that they are smoking reefers.

Now, getting back to the different types of drugs, there are certain types that are called descendants. Those are the ones referred to by the kids as the "white stuff." Opium is the mother of all drugs.

Morphine is a very active constituent of opium. Codeine is a derivative of opium. Cocaine is one of those drugs that is a stimulant, similar to marijuana. Some of the authorities tell us that marijuana is not habit forming; that it does not have the qualities of a true drug. By that they mean that the body does not become dependent upon it from constant use. In other words, we could use it today and perhaps tomorrow not miss it from our bodies if we did not use it again for several days. That would not be true of the other drugs.

I am glad to have heard Mr. Cunningham say that in tracing these drugs down they find 999 out of a thousand to be heroin. That is a great problem to us. Heroin should not be imported into this country. It is illegal to import it or manufacture it. The druggists cannot handle it, and the doctors cannot prescribe it, yet that is what our boys and girls are shooting every day. They talk about $1.50 per capsule. Cocaine costs about $2.50 per capsule, and a combination of those two our kids call a speedball, which they insert into their veins.

By the way, they can be either sniffed or started through the mucous membranes of the nostrils. This has a very deleterious effect. Particularly cocaine is very bad because the wall of the nose can be eaten away by the constant usage by the addict and the membrane is harmed by it.

Common expressions for heroin are H, scat, white stuff, anything that begins with an H, and more recently the kids call it "boy." The cocaine is C, coke, cookie, cutie, anything that begins with a C, or girl, and the combination of boy and girl is the speedball.

I wonder what the answer is when we say that this is not involving school children. We know that scarcely a day passes when we do not hear from some truant officer, some principal, or some assistant principal, giving us the name of a boy or girl who has come to their attention as a suspect, or a confessed user of this drug.

Marijuana smoking, while it used to concern us greatly, does not provide the problem that it used to because the boys and the girls tell us that they start on it—they begin playing around with it, which is the expression they use—and they cost anywhere from 25 cents up to a dollar apiece, but the case records will show you that they do not stay on that very long. In spite of the fact that it is supposed to be not a true drug and habit forming, it does create a general breakdown in the fundamental and social and moral principles, and then taking something else is easy. Usually that something else will be heroin.

While we are seeking your aid to keep others from starting down the road, I think we should not forget those who have already started down the road. In other words, I wonder if this Ways and Means Committee would not look to the idea of providing some sort of facilities for the States under the National Mental Health Act. If that could be done, we would appreciate it greatly.

I would like to submit for your consideration statistics covering cases processed through the narcotic bureau in Chicago. I would like to say, with reference to the narcotic bureau, that it was reorganized in November of 1950. First of all, while the arrest slips had always been processed through the bureau, it was not always necessary that the prisoner be brought down to be interrogated.

It happened to have been my experience to work in the sex offense and homicide bureau and we did have centralized records there. The

prisoner would be brought down and interviewed. There was a State's attorney that placed the proper charge against him. We built up a list of known sex offenders so that in the event of future happenings, in these districts, we would be able to put our finger on the known sex offenders in the district.

Based on that philosophy, we felt that a centralized bureau for narcotic records would be vitally important. A history sheet was made up. It contained the name and address, the place of employment, the family, how long it had been since he worked, what his source of supply was, and so forth.

Very frequently they might tell you the area in which they get it and if you have had enough people from that area, you can narrow it down to two or three peddlers in that district. All of those things assist in this fight against the use of narcotics.

The police department has sent in 28 additional detectives to the narcotic bureau to work on this problem. Just yesterday a lieutenant was asked to take care of a narcotics crusade, with these men who are by way of giving additional scholastic and academic information, and technical information on the subject of narcotics.

The courts are cooperating with us. I happen to be the crime prevention coordinator for the municipal courts and in that capacity I work with the judges.

I would like to tell you that one of the really difficult things about narcotic cases is getting evidence. You know and I know that it is very difficult to make an arrest that will stand up in court, unless you have a search warrant. That is the rule of the court and our Constitution upholds that. Yet, very frequently an officer may not have time to get a search warrant. And if he does have a search warrant, he knocks on the door of the place where the person is housed. They ask, "Who is it?" He says, "A police officer; open the door."

As Mr. Cunningham has said to you, these drugs are kept in very small packages. This may be an envelope containing only .1 ounce and it can be dropped down the drain, in the sink, or in the toilet, and it is gone. The evidence is not there.

Then, these people have good lawyers. When an arrest is made without a warrant, these lawyers are intimately familiar with the rules, particularly as far as narcotics are concerned. There is a motion to quash, a motion to suppress the evidence, and the motion is sustained. If you do not have the right to arrest, you do not have the right to search, and the whole thing is lost.

Also, with regard to the judges, many times they give sentences of 30, 60, or 90 days. We have been working closely with community groups who ask, "Why are such sentences given? We know they have the stuff and we know that they will be back in our neighborhood 2 or 3 months from now."

I can only say that in many instances like that, perhaps the judge did not have enough evidence to give them more than 30 or 60 days. He really, shall we say, leaned over a little bit to see that this horrible person was taken off the streets.

As far as the State law is concerned, our State law is going to be more stringent. I think it probably will be even more stringent, as Congressman Yates has presented it. We are asking that the peddler on the first offense be given 1 year to 5, with no fine. As has been pointed out to you, they can pay those fines very easily. Second and

subsequent offenses will be somewhere in the vicinity of from 3 to 10 years. For anyone who sells to boys or girls under 21, we are asking penalties of 1 year to life.

We are distinguishing peddlers, in our law, from users. Users, on a first offense, will be given 1 to 5; on the second it will be mandatory 3 to 10, and/or a $5,000 fine. That is now in the subcommittee of the judiciary committee of the Illinois State Legislature and as soon as a copy of that is available, we will be glad to send it to this committee.

You will note in these statistics—let me give you the number of cases processed through the narcotics bureau. In January 1951, the number was 627 as against 399 in January of 1950. In February of 1951, 572 cases were processed, as against 278 in February of 1950. And in March 1951, 813 cases, contrasted to 232 in March of 1950.

We claim that about 20 to 22 percent of these cases that are processed through the Bureau are in the 17- to 21-year age brackets. A study made of 2,723 cases over a 7-month period showed an average age of 24 years. That was a study made from March 1 through September 31, 1950—2,723 cases with an average age of 24.

That is important to us, because this is the Army service age.

I do not suggest to you that the increase in cases processed shows a direct ratio to the increase in drug addiction. There are far more police officers, and other personnel, assigned to the narcotic problem today than there were in 1950, as a direct result of the action of agencies combined in the Crime Prevention Council.

Getting back to the case of this little 12-year-old girl, Mr. Cunningham brought out the fact that girls who become addicts will go into shoplifting and prostitution; boys will go into stealing, strong-arm methods, house robbery, larceny, in order to get money. It is true that school children do not have that kind of money, but there are fences who will become the outlet. Just last week there was an addict in our office. There are fences who specialize, as was brought out in his case. In order to get rid of a silk slip you go to one place. In order to get rid of a brief case, you go to some other place. In order to get rid of some leather gloves, you go somewhere else.

In this case he told us that he was an addict for 8 months. He is 16 years old. At 7 o'clock in the morning, his biggest worry was, where was he going to get his first dose that morning before school started? He would go out and steal from the nearest truck.

We would say to these boys, "What are you on now?" When they came in and he would say, "I have been on heroin now for 8 months. I started on marijuana."

"How many are you on now?" "Six."

"How much are you paying for them?" "A dollar and a half."

"Are you working?" "No."

"How do you get this drug?" "I have been lucky in cards and craps."

Well, that might be an answer for someone, but what he means is that he is getting it from illegal sources or he could not procure that drug.

I wish I could bring to you the need that we have for some place other than jail for these people. I realize that your committee is concerned with a law that will provide or more stringent penalties for peddlers. But in the meantime, what are you going to do with the boy and girl peddlers?

I can remember when I became a policewoman 13 years ago; there were 32 or 35 arrests a month on narcotics. Now the figure is 813, 627, 572. But the sad part of it is that in those years—and I think Mr. Cunningham would agree with me—the peddler in those days was very seldom an addict. Now we have very youthful peddlers. They become peddlers trying to keep up on their own supply. If they can get rid of 10 or so, whatever the designated number is, in a day, by peddling they get their own supply free. So life to them is going to be one constant problem not only of funds, but of making new addicts.

If we agree that drug addiction is an infection—which it is—then we must agree that it can certainly not be stamped out by putting the older drug peddlers away because, after all, the young people are selling, and they have a concentrated area in which to sell. They are certainly potential dangers. They are dangers.

I would like to tell you that the Chicago Housing Authority has been working closely with the crime prevention council or bureau in Chicago. The Chicago Housing Authority has 15 projects. They comprise 12,000 families in a concentrated area. They are interested in providing information to their tenants, awakening them to the dangers, the way to recognize these drugs and what to do in the event there is any traffic within those projects.

A few of them have called at our office. We are in the midst right now of preparing a pamphlet. We have been meeting with them regularly, not only with the housing manager and his assistants, but with the tenants as well. We are continuing to work with them.

The Cook County Physicians' Association and the Cook County Bar Association met recently. John S. Boyle, the State's attorney of Cook County, and the Honorable Judge Green, circuit court judge, and I addressed this meeting. These men are now working on a plan whereby they can have an out-patient clinic. We realize that Lexington Hospital is doing a fine job and that the other hospital is doing a fine job, but there must be some place for these people to go where they can be assisted in their adjustment in the community where they will have to go back to live, or else they are going to have to go back to Lexington very soon or to some penal institution because of their efforts to get drugs.

I wanted to point out that everybody in Chicago and in the State of Illinois, through these 10 law-enforcement agencies in the communities, are doing everything they can to help stamp out this menace of narcotics. We want to work even harder. We would welcome any suggestion from this committee and if the crime prevention bureau, with its resources, can assist you in furthering your investigations, we would like you to call on us.

I would like to say to you that it has been wonderful to be here. I appreciate the invitation and I hope that I can answer any questions that you may want to ask of me.

Mr. BOGGS. Dr. Higgins, you have certainly made a fine statement and I congratulate you on the splendid way in which these associated groups in Chicago are handling this problem. The jurisdiction of this committee relative to this particular problem is somewhat limited. But we are glad to know that you approve this legislation. We would like very much to have your suggestions from time to time. I do not have any specific questions at this time. I think

you and Congressman Yates have certainly covered the Chicago situation quite adequately.

Mr. HARRISON. I quite agree.

Mr. BOGGS. Thank you very much.

Mr. YATES. Thank you, Mr. Chairman.

Mrs. HIGGINS. Thank you, gentlemen.

Mr. BOGGS. The committee will stand adjourned until next Saturday at 9:30 a. m.

(The following information was supplied by the Administrative Office of United States Courts:)

1950 narcotic violations

	Total	Total convicted	Imprisonment	Probation	Fine	Average sentence (in months)
86 districts	2,400	2,136	1,654	471	11	21.9
District of Columbia	80	69	56	13		[1] 42.4
First circuit:						
Maine	1	1		1		
Massachusetts	30	28	18	10		22.7
New Hampshire						
Rhode Island						
Puerto Rico	84	78	73	5		50.6
Second circuit:						
Connecticut	8	8	5	2	1	21.6
New York, northern	5	5	2	3		4.5
New York, eastern	34	29	27	2		22.2
New York, southern	190	184	128	56		16.6
New York, western	16	6	6			8.8
Vermont						
Third circuit:						
Delaware	2	2	1	1		2.0
New Jersey	49	41	24	17		26.9
Pennsylvania, eastern	40	40	37	2	1	24.2
Pennsylvania, middle	1	1		1		
Pennsylvania, western	21	19	11	8		15.7
Fourth circuit:						
Maryland	25	21	19	2		32.1
North Carolina, eastern	29	19	12	7		31.5
North Carolina, middle	7	6	6			33.5
North Carolina, western	14	14	12	2		20.0
South Carolina, eastern	6	5	5			20.4
South Carolina, western	27	22	7	14	1	20.9
Virginia, eastern	1	1	1			2.0
Virginia, western	4	4	1	3		4.0
West Virginia, northern						
West Virginia, southern						
Fifth circuit:						
Alabama, northern	3	3	2	1		25.5
Alabama, middle	5	5	5			22.8
Alabama, southern	4	4	3	1		28.0
Florida, northern	2					
Florida, southern	26	24	10	14		36.9
Georgia, northern	8	7	2	5		12.0
Georgia, middle						
Georgia, southern	3	3	3			36.0
Louisiana, eastern	191	180	162	18		24.7
Louisiana, western	1	1		1		
Mississippi, northern	3	3	3			18.0
Mississippi, southern	6	5	3	2		17.0
Texas, northern	96	88	56	29	3	19.2
Texas, eastern	4	3	1	2		6.0
Texas, southern	238	199	172	27		16.0
Texas, western	192	159	144	15		17.9
Sixth circuit:						
Kentucky, eastern	7	7	5	2		14.8
Kentucky, western	20	17	9	8		17.6
Michigan, eastern	108	101	64	37		20.9
Michigan, western	3	2	2			36.0
Ohio, northern	49	46	3			30.5
Ohio, southern	98	94	75	19		16.9
Tennessee, eastern	7	7	2	5		48.0
Tennessee, middle	5	3	3			7.7
Tennessee, western	5	5	4	1		11.5

[1] These figures are based on the maximum sentence imposed in the District of Columbia where an indeterminate sentence is always given.

1950 narcotic violations—Continued

	Total	Total convicted	Imprisonment	Probation	Fine	Average sentence (in months)
Seventh circuit:						
Illinois, northern	143	125	102	23		16.5
Illinois, eastern	11	8	4	4		18.5
Illinois, southern	5	2	1	1		36.0
Indiana, northern	8	6	5	3		18.0
Indiana, southern						
Wisconsin, eastern	3	2	1	1		12.0
Wisconsin, western	1	1		1		
Eighth circuit:						
Arkansas, eastern	8	7	4	2	1	19.5
Arkansas, western	7	5	1	4		24.0
Iowa, northern						
Iowa, southern						
Minnesota	6	6	5	1		10.8
Missouri, eastern	27	27	15	12		21.2
Missouri, western	34	34	29	5		31.6
Nebraska						
North Dakota						
South Dakota						
Ninth circuit:						
Arizona	65	55	50	5		24.7
California, northern	69	64	53	11		26.5
California, southern	139	118	100	17	1	19.5
Idaho						
Montana	4	3	2	1		12.0
Nevada	6	6	6			20.0
Oregon	8	5	4	1		26.5
Washington, eastern	1	1	1			18.0
Washington, western	54	48	35	13		19.5
Hawaii	11	8	5	3		33.6
Tenth circuit:						
Colorado	46	44	27	17		22.9
Kansas	8	8	3	5		16.0
New Mexico	12	9	9			7.6
Oklahoma, northern	12	8	6	2		16.0
Oklahoma, eastern	5	5	4		1	19.5
Oklahoma, western	27	18	7	11		11.1
Utah	5	4	2	2		24.0
Wyoming	4	4	2		2	12.0

Source: Administrative office of United States courts.

CONTROL OF NARCOTICS, MARIHUANA, AND BARBITURATES

SATURDAY, APRIL 14, 1951

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE OF THE COMMITTEE,
ON WAYS AND MEANS,
Washington, D. C.

The subcommittee met at 9:30 a. m., Hon. Hale Boggs (chairman) presiding.

Mr. BOGGS. Our first witness this morning is Mrs. Leslie B. Wright, chairman of legislation, General Federation of Women's Clubs, Washington, D. C.

STATEMENT OF MRS. LESLIE B. WRIGHT, CHAIRMAN, LEGISLATION DEPARTMENT, GENERAL FEDERATION OF WOMEN'S CLUBS, WASHINGTON, D. C.

Mrs. WRIGHT. Mr. Chairman, I see no need of going into the reasons why we are supporting this legislation, because you have had them given to you again and again, and it would just take up your time.

The General Federation of Women's Clubs is the largest organization of its kind in the world. It has within the United States a membership of over 5.5 million women, with a voting membership of nearly 800,000.

Our membership is composed largely of homemakers, women who are primarily concerned with the welfare of home and children. We have devoted much of our resources toward problems concerning child welfare. We have a Nation-wide contest underway, Build Freedom With Youth. We have deplored the debasing effect on our young folks of crime pictures and other types of mass media which tend to rob our boys and girls of high ideals of citizenship.

And to the General Federation of Women's Clubs there is no safeguard as important as the protection of the community from drug traffic. We feel that these rats who peddle drugs are more of a menace than even a potential murderer. They kill the very souls of those with whom they traffic; they rob them of all moral values; they take their health away; they drag our boys and girls into some circle of Hades where those who love them are unable to reach to help.

A resolution adopted at our 1950 convention reaffirms our position throughout the years. It

Advocates continued participation of the membership in securing additional and amendatory narcotic legislation, Federal and State, as is deemed necessary by the General Federation of Women's Clubs Department of Public Welfare and its

advisers on narcotics. Urges the eradication of all illegal growth of marijuana and supports the efforts of State authorities to provide facilities for carrying out such a program.

We have other resolutions dealing with the limitation and control of world production of opium.

Testimony given here has shown that in judicial districts where fines are adequate, where long jail sentences are imposed, illegal traffic in narcotics is almost wiped out.

Several years ago, when I served the District of Columbia Federation of Women's Clubs as legislative chairman, we were able to have passed by the Senate legislation comparable to that being considered today. However, it never was reported out by the House committee to which it was referred. We had it referred to the District Committee of the House, and it was passed over.

The General Federation of Women's Clubs feels that enactment of one of these bills being considered by your committee is of the greatest importance. In its name, I therefore beg you committee follow through and see that at this session of Congress legislation is enacted providing mandatory jail sentences for violation of the narcotics laws and that these sentences be sufficiently lengthy to really wipe out illegal traffic in drugs.

And we feel, particularly here in the District of Columbia, without a vote and as a Federal territory, that we should be taken care of; that we should have stricter sentences. These things come up year after year, and nothing is done. You hold these hearings, take your valuable time, and then it seems to get shoved to one side.

Now I would like to speak briefly on Mrs. Rogers' bill, because we are concerned with that. That is H. R. 348, a bill proposed by the Honorable Edith Nourse Rogers of Massachusetts to provide coverage of barbiturates under the Federal narcotic laws.

Some years ago the District Federation of Women's Clubs proposed this same legislation at the time of the introduction of the other legislation of which I have spoken. I was rather amazed to hear the representative of the Bureau of Narcotics say that the Bureau disapproved this legislation, for at the time the District of Columbia federation worked on the matter I was in direct communication with Mr. Anslinger and, as a matter of fact, he had written for me the form in which we introduced the bill, which passed the Senate and was killed in the House committee by the opposition of the Pharmaceutical Association on the ground it was a State problem.

This may be true, but the fact remains that right here in the District of Columbia barbiturates may be bought without prescriptions from many druggists. I am aware that many druggists refuse to sell without a prescription, but I also know that some do make these sales.

If it is not a realistic approach to include barbiturates under the Federal narcotic laws, then separate legislation should be drafted which would cover not only the District of Columbia and the Territories but those States which have not attacked the problem.

These drugs are dangerous. Mrs. Rogers has asked to have made part of the record testimony given in 1947. We heartily agree with what she has said and in our concern for our young folks urge that a study be made by your committee of just how to meet the need for legislation controlling sale of barbitrates.

Mr. JENKINS. How do you pronounce that? I always thought it was "barbituates."

Mrs. WRIGHT. My husband is with the Food and Drug Administration, and he calls it "barbitrates." I heard everybody here the other day say "barbiturates."

Mr. JENKINS. The reason I ask is that I just wondered where the word came from; what is it generically?

Mrs. WRIGHT. If it is Greek, it ought to be "barbiturates." I have always said "barbitates," but I had to follow what Mr. Cunningham said the other day.

Mr. JENKINS. I want to assure you that I have the greatest respect for your great organization.

Mrs. WRIGHT. I do hope something can be done, since we are really concerned with this problem. As I say, this thing comes up year after year and then gets shoved to one side. We think it is just as important as some other matters.

I appreciate your taking the time to hear us.

Mr. BOGGS. Thank you very much, Mrs. Wright. We appreciate your testimony.

Our next witness is Mr. George H. Frates, National Association of Retail Druggists.

Please give your name and occupation for the record.

STATEMENT OF GEORGE H. FRATES, WASHINGTON REPRESENTATIVE, THE NATIONAL ASSOCIATION OF RETAIL DRUGGUSTS, WASHINGTON, D. C.

Mr. FRATES. My name is George H. Frates; I am Washington representative of the National Association of Retail Druggists, 1163 National Press Building, Washington, D. C.

Our organization represents some 35,000 independent retail druggists of the country, and we appear here this morning in opposition to H. R. 348. Our main and particular reason is because we believe barbiturates should be controlled at the State level. The State boards of pharmacy are equipped and empowered under the law to control drugs within the State confines, and we feel a better job could be done in that way.

Incidentally, at this moment the National Association of Retail Druggists is very much interested in a bill before this Congress known as the Durham-Humphrey bill which would amend the Pure Food and Drug Act, which, in my estimation, would have a great deal of effect in the further control of barbiturates.

We think if this legislation were enacted and barbiturates were put under the control of the narcotics machinery, it would merely add more confusion to our operation. In other words, assume we might buy a pint of elixir that contained a small, infinitesimal dose of barbiturate: We would have to go through the same procedure that we do now in narcotics. We do not believe barbiturates are narcotics in their effect, but rather they are sedatives.

I repeat that we strongly believe they should be controlled at the State level.

Mr. Chairman, I make the request at this time that, if it is agreeable to the Chair, I be allowed to add a further prepared statement in writing for the purpose of the record.

Mr. BOGGS. We will be very glad to have your statement.

Mr. FRATES. I will add further that we are in favor of the Boggs bill which would tighten up the penalties under the Harrison Narcotics Act. I say that advisedly. Last Saturday your witness from the Narcotics Commissioner's office stated there was no leak—and there is none—in the independent retail drug stores insofar as narcotics are concerned.

Mr. BOGGS. Do I understand you advocate some legislation on barbiturates in connection with the pure food and drug legislation?

Mr. FRATES. Yes. I mentioned we are very much interested in a bill now before the Interstate and Foreign Commerce Committees of the House and Senate, cosponsored by Representative Durham and Senator Humphrey, which would amend the Pure Food and Drug Act and, in a measure, tighten the control over the issuance or promiscuous use of barbiturates.

Mr. GRANGER. Are barbiturates sold over the counter?

Mr. FRATES. No; not legally.

Mr. GRANGER. They are not?

Mr. FRATES. No, sir.

Mr. BOGGS. That varies from jurisdiction to jurisdiction; does it not?

Mr. FRATES. Do you mean by that you refer to the State level?

Mr. BOGGS. Yes.

Mr. FRATES. No. The Food and Drug Administration controls the sale of barbiturates in the drug channels. In other words, all barbiturates that are manufactured now have what is known as a prescription legend on them. Legally they can only be dispensed on a written prescription of a practitioner licensed to do so. The promiscuous sale of barbiturates is bootleg; the sales do not go through the retail drug channels.

Mr. GRANGER. You get them by prescription, the same as you do the other narcotics?

Mr. FRATES. That is right. They can only be dispensed upon a prescription.

Mr. GRANGER. What is your profession; are you a druggist yourself?

Mr. FRATES. Yes, sir.

Mr. GRANGER. You live here in Washington?

Mr. FRATES. Yes, sir. I am the Washington representative. I formerly owned an exclusive prescription pharmacy in San Francisco.

Mr. JENKINS. You say you represent the National Association of Retail Druggists. What proportion of the drug stores of the country do you speak for?

Mr. FRATES. We have approximately 3,500 members. There are 48,000 drug stores in the country.

Mr. JENKINS. Do those big chain drug stores belong to your organization?

Mr. FRATES. No, sir. They have a separate organization of their own. We represent the little, independent drug store—the little fellow around the corner who has a one-man or two-man operation.

Mr. JENKINS. Who represents the chain drug stores, if anybody?

Mr. FRATES. They have a separate association of their own called the National Association of Chain Drug Stores. Their headquarters are in New York.

Mr. JENKINS. What is, as the chemist would say, the active principle of barbiturates?

Mr. FRATES. The drug itself. It stems from an old German patented drug brought to this country perhaps 30 years ago, called barbiturate, barbital, and several different names.

Mr. JENKINS. What is the chemically active principle in barbiturates?

Mr. FRATES. I cannot recall offhand, but it is a malonylurea chain of drugs produced synthetically, such, for example, as seconol.

Mr. JENKINS. In what kind of shape is it sold? They sell it in pills, of course?

Mr. FRATES. They sell it in tables, capsules, and elixirs generally. It can be put up in almost any form.

Mr. JENKINS. I see by the papers that a lot of people die from taking sleeping tablets. Is that what those are—barbiturate sleeping tablets?

Mr. FRATES. Yes. A great many people die from an overdose of barbiturates, but that would not indicate to us that you could not commit suicide in some other way, such as jumping off a bridge or turning on the gas. It so happens that when the newspapers get a story like this, they play it up and it makes good copy.

Mr. JENKINS. On the other hand, I know you can kill yourself with a shotgun or jump off a bridge, but you do not carry a pistol or shotgun that has killing possibilities around with you all the time, as many people do with the barbiturates. Many people take sedatives—distressed people, tired people—and these things kill people, and there ought to be some other sedative with some other active principle in it besides something that becomes habit forming and makes slaves out of people and causes them to commit suicide.

Mr. FRATES. That is correct, Congressman. However, they are supposed to take them under the guidance of their physician, and if they follow the directions the physicians write on the package, they won't use them for suicidal purposes nor will they get an overdose.

Mr. JENKINS. I think it has some good qualities. No doubt some people ought to be put to sleep when they want to, if it can be done safely. I am not in that class, I am proud and happy to say, and I do not know what these barbiturates are, but I know a lot of people are distressed and they take medicines that druggists sell them, and it looks like druggists ought to be controlled in some way from selling them to some poor addict who comes in with 50 cents or a dollar and wants to buy something that you know very well is going to knock him out.

Mr. FRATES. I pointed out that you do not sell them across the counter; you must have a prescription.

Mr. JENKINS. Well, that is some recommendation.

Mr. FRATES. They are entirely controlled by the physician. Of course, there are those border-line cases where we are ashamed of people who promiscuously sell them. Perhaps there will be a few leaks here and there, but by and large the independent retail druggists of this country are honest professional men, and, according to the surveys we have made and the information we gather, the leaks come through from the manufacturers who do not sell to the drug trade at all.

Mr. SIMPSON. How does an individual get them who subsequently sells them illegally?

Mr. FRATES. We have had information called to our attention where a firm in New York sold them across the State line—all you wanted. You just send in an order blank.

Mr. SIMPSON. Is there any existing law he violated in doing that?

Mr. FRATES. Yes.

Mr. SIMPSON. Is that a Federal law?

Mr. FRATES. He violated first the State law.

Mr. SIMPSON. He violated the New York State law?

Mr. FRATES. Yes, sir.

Mr. SIMPSON. Is there any Federal law he violates in shipping across State lines?

Mr. FRATES. Not if he was a licensed manufacturer, and I do not know whether he was or not. If he was not, he violated another law.

Mr. SIMPSON. Do you not agree that there should be a Federal law to prohibit his shipping such things across State lines?

Mr. FRATES. No. I think the States should control that. It should be controlled at the State level, similar to the State narcotic acts. In very many of the States they have a duplicate of the Federal act that ties right in with the Federal control, and narcotics are controlled in that general manner.

Mr. SIMPSON. Here is my principal question. You agree, I assume, that narcotics, such as morphine and so forth, should be controlled at the Federal level; do you not?

Mr. FRATES. Right.

Mr. SIMPSON. Why do not you agree that these drugs should be controlled at the Federal level? What is the distinction?

Mr. FRATES. Because we treat barbiturates as sedatives and not habit-forming drugs. While you might point out that there is addiction, still, by and large, thousands upon thousands of barbiturates are dispensed each day, and addiction does not necessarily follow.

Mr. SIMPSON. There is a great deal of morphine dispensed each day, too, and addiction does not always follow.

Mr. FRATES. That is true. But, understand, we figure that morphine or any derivative of opium is deadly in the hands of the layman.

Mr. SIMPSON. Is there any connection between the use of barbiturates and wanting something stronger and the one leading to the other?

Mr. FRATES. I am not a physician. I am not in a position to say.

Mr. SIMPSON. Have you never heard that discussed?

Mr. FRATES. Do you mean by that that they taper off?

Mr. SIMPSON. No. I mean they taper on; they want something stronger.

Mr. FRATES. Conceivably, that is possible.

Mr. SIMPSON. Is that not one of the well-known effects of barbiturates in the cases we are talking about—that once they start they want something stronger?

Mr. FRATES. No; I would not give it as my opinion that that would hold true entirely, because barbiturates are sedatives and have a very important place in medicine.

Mr. SIMPSON. I do not question that. I know they have.

Mr. FRATES. I do not think they are as potent as narcotics.

Mr. SIMPSON. You say they are not as potent. That is my point—that they are not, and the individual who uses them and becomes an

addict then becomes a client for the purchase of stronger drugs, and it seems to me there should be some reasonable control.

You are not arguing against the control of the sale of barbiturates?

Mr. FRATES. No.

Mr. SIMPSON. But you do make the point that it should be held at the State level, whereas you agree that the others, which are stronger, should be handled at the Federal level. I do not quite get the distinction as to why, if the one leads to the other illegally.

Mr. FRATES. I repeat I do not have any medical knowledge of that nor do I have any case histories that might refute or prove the point.

Mr. SIMPSON. Is it your principal point that the mechanics of following the Federal law would be too extreme and therefore would be objectionable to the retail druggists?

Mr. FRATES. That is right.

Mr. SIMPSON. That is your principal reason?

Mr. FRATES. That is one of the principal reasons, because when you are dealing with opium and its derivatives, Commissioner Anslinger can control that product from the poppy up; but when you are dealing with barbiturates which could be made by any manufacturer who had the proper machinery and know-how, we feel the State boards of pharmacy are empowered and have the machinery to control barbiturates, and they are doing a fairly good job in all of the States that have barbiturate acts.

Mr. SIMPSON. The production of marijuana is scattered all over the country.

Mr. FRATES. Yes; it grows wild.

Mr. SIMPSON. Do you think that should be federally controlled?

Mr. FRATES. Yes, sir.

Mr. SIMPSON. Your principal objection, then, is the effect upon the retail dispenser, which would be mechanically what you consider prohibitive and undesirable? That is your principal objection to a Federal law?

Mr. FRATES. Yes; I will say that is our principal objection. However, that has to stem into the whole operation. We do not consider barbiturates as being habit-forming drugs unless they are used out of line with the doctor's directions. The doctor controls barbiturates so far as we are concerned, and, if he gives the proper dose, no one will become an addict.

Mr. SIMPSON. The same thing applies to morphine, too.

Mr. FRATES. That is right.

Mr. SIMPSON. Thank you very much.

Mr. GRANGER. What is the principal source of supply of barbiturates?

Mr. FRATES. It is a synthetic. It is manufactured in pharmaceutical laboratories.

Mr. GRANGER. Where, principally?

Mr. FRATES. I do not know who the principal manufacturer is, but Abbott, Upjohn, Muir, Wyeth, Park-Davis, Squibb—all the high-class manufacturers of the country—produce barbiturates legally.

Mr. GRANGER. If barbiturates are not habit-forming, why would there be any desire on the part of anybody to bootleg; why would there be any incentive to bootlegging if they are not habit-forming, which would create a market for them?

Mr. FRATES. I presume it might be like any other drug. Any drug in the United States Pharmacopoeia perhaps might be habit-forming to certain individuals, and if you take more than the prescribed dose or do not take the drug under the direction of a practitioner licensed to practice, it might be injurious.

You cannot stop, in my opinion, just at barbiturates. There are dozens of other drugs that could be used instead of barbiturates if the physician elected. There are many other synthetics that would have almost the same therapeutic effect, I would say. Barbiturates just happen to have come to the layman's attention through the blowing up of cases in which the drug was used for suicidal purposes and made a good newspaper story.

Mr. GRANGER. Is there any record of any great amount of bootlegging in barbiturates?

Mr. FRATES. Not a great amount.

Mr. GRANGER. Not a great amount?

Mr. FRATES. Not to my knowledge.

Mr. GRANGER. It is usually sold by prescription?

Mr. FRATES. Yes, sir.

Mr. BOGGS. Thank you very much.

Mr. FRATES. Thank you for your time.

Mr. BOGGS. The next witness is Miss Elizabeth A. Smart, representing the National Woman's Christian Temperance Union.

Will you give your name and the name of the organization you represent for the purpose of the record?

STATEMENT OF MISS ELIZABETH A. SMART, ON BEHALF OF THE NATIONAL WOMAN'S CHRISTIAN TEMPERANCE UNION, WASHINGTON, D. C.

Miss SMART. Mr. Chairman and members of the committee, I am Miss Elizabeth A. Smart. My address is 100 Maryland Avenue NE., Washington, D. C. I am representing the National Woman's Christian Temperance Union.

My organization has in the neighborhood of a half a million members, reaching down into the grass roots and through church and other associations contacting at least as many more persons.

One of our departments is the bureau of research in narcotic drugs, whose head is Mrs. Pearl Kendall Hess, of Orange, Calif. We have been deeply concerned with this problem of narcotic drugs over the years and through our own efforts and those of our international organization, the World's Woman's Christian Temperance Union, have been instrumental in helping to secure the ratification of the various opium conventions and the inclusion of a Commission on Narcotic Drugs in the structure of the United Nations. Also the passage by the several States of the uniform narcotics drug acts.

Lately the American public has had its attention forcibly drawn to the increasing problem of drug addiction and drug peddling among youth of school age in this country.

This bill, H. R. 2340, has been introduced by Representative James G. Donovan, of New York, to meet the problem by tightening up penalities for violations of the Federal Narcotic Drugs Import and Export Act, as amended (U. S. C., title 21, sec. 174).

The value of this bill lies in the fact that it makes imprisonment for offenders compulsory and prescribes a minimum sentence. Furthermore, it provides that sentence for a second or subsequent offense may not be suspended and that probation cannot be granted until the minimum sentence has been served, and requires a record showing whether or not the offense is a first, second, or subsequent offense. It also makes possession, unless explained to the satisfaction of a jury, sufficient evidence for conviction.

The defendant's rights are protected by his right to a jury trial on the question of identity and possession.

We understand this bill has the approval of the Federal Bureau of Narcotics.

We consider it a valuable step in preventing collusion between judicial officers and drug peddlers or addicts, similiar to that shown to have existed in gambling cases by the disclosures of the Kefauver committee. It would also be helpful to conscientious judges desirous of enforcing the law because it removes the possibility of our American weakness—of sympathy with the criminal, regardless of the injuries done his victims, resulting in unfair pressure of public opinion on the judge to disregard his judicial duty to adequately punish offenders.

We hope your distinguished committee will decide to give a favorable report on this bill.

Mr. BOGGS. Are there any questions?

Chairman DOUGHTON. That was a very fine statement.

Mr. JENKINS. I notice you recommend the passage of this bill by the New York Representative, Congressman Donovan. May I ask our chairman, Mr. Boggs, how much difference is there between his bill and your bill?

Mr. BOGGS. Very little. My bill makes certain technical changes. The language of all of the bills has been worked out in connection with the Bureau of Narcotics.

Mr. JENKINS. Are you familiar with the chairman's bill?

Miss SMART. No; I have not been familiar with the chairman's bill. This is the bill our organization discussed and favorably reported. That is the reason I am here urging its passage.

Mr. BOGGS. The bills are substantially the same.

Miss SMART. Yes. We are in favor of any bill that carries that recommendation.

Mr. BOGGS. Thank you very much, Miss Smart.

Our next witness is Dr. Harris Isbell, director of research in narcotics, United States Public Health Service Hospital, Lexington, Ky.

STATEMENT OF DR. HARRIS ISBELL, DIRECTOR OF RESEARCH IN NARCOTICS, UNITED STATES PUBLIC HEALTH SERVICE HOSPITAL, LEXINGTON, KY.

Dr. ISBELL. Gentlemen, my name is Harris Isbell; I am a medical officer of the Public Health Service. For the past 7 years my assignment has been research in narcotic addiction, which is carried on at this same institution.

We have two motion pictures which I think might be of interest to you and of value to you in considering this legislation. We have the projector set up in the back room.

I might say, by agreement with some of the persons who appear in these motion pictures, their showing has been restricted to professional people, legislators, and law enforcement officers. So I would prefer that only members of the committee and individuals who are professionals or law enforcement officers view these particular motion pictures.

When I was asked to come up here, of course, I did not know exactly what you gentlemen might like to know. I have been given a number of questions, but unfortunately I am not the man to answer a great many of them.

Mr. BOGGS. How long will this motion picture take, approximately?

Dr. ISBELL. There is one on southern barbiturates and one on eastern barbiturates.

Mr. BOGGS. What is the one on western barbiturates?

Dr. ISBELL. I think the most of them will show barbiturates.

Mr. HARRISON. The last witness called it "barbitrates."

Dr. ISBELL. I think any pronunciation is correct.

Mr. HARRISON. I have been trying for 2 weeks to find out which is right.

Mr. JENKINS. Barbiturates is the general classification for anything that is an opiate or a sedative that puts people to sleep. Is that right?

Dr. ISBELL. No. It refers to the class of compounds of which there are literally hundreds. All of them are based on malonylurea.

Mr. JENKINS. That is worse than ever. What does that mean?

Dr. ISBELL. That is hard to explain. It is simply the name of a particular specific organic chemical compound.

Mr. JENKINS. A chemical compound?

Dr. ISBELL. Yes, sir.

Mr. JENKINS. Is it made up of anything like opium?

Dr. ISBELL. No; chemically it is not related to opium or morphine, or drugs of that type.

Mr. JENKINS. Out of what is it made?

Dr. ISBELL. It is made from urea, which is a very common organic chemical. Urea is something that results from the body processes.

Mr. JENKINS. You can put it in a powder, put it in capsules, or put it in pills?

Dr. ISBELL. Or put it in solutions of various kinds.

Mr. JENKINS. Or put it on chemical paper or something like that.

Mr. BOGGS. The committee will now go into executive session to see these movies.

Dr. ISBELL. Gentlemen, before we begin with the movie, it might help if I gave just a little background.

Chronic intoxication with, or addiction to, barbiturates is becoming a matter of increasing concern to physicians, various lay groups, law-enforcement officers, and legislators.

Production of barbiturates has steadily increased and now appears to exceed greatly the amount needed for therapeutic purposes. In 1948, total production in the United States amounted to 336 tons, or approximately 24 doses of 0.1 gram for each person in the United States. As is well known, acute intoxication with barbiturates has been steadily increasing and acute intoxication with these drugs accounts for the largest number of deaths due to poisons of any kind.

The increase in chronic barbiturate intoxication probably parallels

that of acute intoxication although it is extremely difficult to get any accurate figures on the incidence of chronic intoxication. A large proportion of the cases investigated by agents of the Bureau of Narcotics finally proved to be cases of addiction to barbiturates and not addiction to morphine. Approximately three to four calls per day are received at the United States Public Health Service Hospital, Lexington, Ky., requesting admission of individuals addicted only to barbiturates.

Since 1940, an increasing number of morphine addicts who were also addicted to barbiturates, have been admitted to that institution. Phenobarbital, seconal and amytal were the barbiturates most commonly used by narcotic drug addicts. Ordinarily morphinists will take approximately 15 to 16 capsules of one of these barbiturates daily. Following abrupt withdrawal of barbiturates from such persons, or even following abrupt reduction of their dosage to less than 50 percent of that which the individual was accustomed to taking, convulsions and/or a delirum frequently ensued. The development of convulsions following abrupt withdrawal of barbiturates was noted in the German literature as long ago as 1913. German authors have also written extensively on the occurrence of a psychosis during abstinence from barbiturates. This German work has apparently been completely neglected in the United States and Great Britain. Although a number of articles which described the development of convulsions following withdrawal of barbiturates have appeared in the American literature since 1940, very little attention has been paid to the development of a psychosis in any of the papers published in English.

Since all of the cases observed at the Lexington Hospital were addicted to morphine as well as to barbiturates, and sometimes to other drugs—alcohol, bromides, paraldehyde, chloral—as well, it was impossible to determine from the clinical data alone whether the symptoms seen during withdrawal were due solely to abstinence from barbiturates or to abstinence from a combination of drugs or, possibly, to malnutrition. It was also impossible to determine whether the development of symptoms was dependent upon pre-existent epileptic or psychotic diathesis. These same objections applied to the cases which were reported in both the American and in the German literature as well as to the cases observed at the Lexington Hospital.

It was therefore deemed desirable to conduct an experiment under controlled conditions in which individuals, whose neurological and psychiatric status was known, ingested barbiturates for long periods of time and were then subjected to abrupt withdrawal.

Start the movie.

Title 1 is, "Chronic barbiturate intoxication."

Title 2 is, "An experimental study."

Title 3 is, "From the Research Division, United States Public Health Service Hospital, Lexington, Ky."

Title 4 is, "Intoxication with barbiturates is increasing and is becoming a serious public health problem."

Title 5 is, "Very little is known about the effects of chronic barbiturate intoxication so an experimental study in man was desirable."

The movie includes scenes obtained with only three of these patients because of the necessity for holding the movie to a reasonable time. The two patients who do not appear in the movie had symp-

toms which were very similar to those which were observed in the three individuals used in the movie.

Title 6 is, "Five former morphine addicts volunteered to take large amounts of barbiturates for long periods of time."

Title 7 is, "You will see some of the things that happened to three of them."

Title 8 is, "This is Jack."

Title 9 is, "This is Fred."

Title 10 is, "This is Cecil."

Title 11 is, "Jack took seconal for 91 days. His highest dosage was 1.3 grams daily."

In all instances the dosage was the maximum which the men could tolerate without becoming unmanageably drunk. The drug was emptied from the capsules into water so as to prevent any possibility of the patient palming the capsules. The total daily dosage was divided into five separate doses. The men gradually approached their highest daily dosage, about 21 days being required for them to reach the top dosage.

Jack was a morphine addict who was originally an alcoholic. He was a passive, dependent, individual with a great deal of anxiety.

Title 12 is, "Fred took seconal for 132 days. His highest dosage was 1.8 grams daily."

Fred was a true psychopath who had a criminal record prior to being addicted to morphine. Mild compulsive features were detected in his personality.

Title 13 is, "Cecil took amytal for 104 days. His highest dosage was 3.8 grams daily."

Cecil was probably a psychopath but careful psychiatric study revealed that he had many schizoid traits. He was shy, withdrawn, and stayed to himself most of the time.

Title 14 is, "Jack was very intoxicated while he was taking seconal."

The signs of intoxication with barbiturates were very similar to those of severe intoxication with alcohol. They included ataxia in gait and station, nystagmus, abolition of the superficial abdominal reflexes, dysarthria, coarse tremor of the hands, loss of emotional control, and impairment of intellectual functioning. The patients never had toxic psychoses while taking barbiturates.

In the scene showing Jack being assisted down the hall, note that Fred, who is receiving more seconal than Jack, is helping to carry him.

Title 15 is, "Cecil was quite intoxicated but showed few motor signs. He became dirty, unkempt, and lived in filth."

The manifestations of intoxication with barbiturates varied greatly from individual to individual. Jack usually showed marked motor impairment, whereas Fred and Cecil usually had only minimal signs. Cecil, however, became more reclusive than before. He stayed in his room, did not associate with the other patients whatever. He was paranoid, felt that the physicians and attendants were not actually giving him amytal. Although he was normally a neat person, he stopped shaving, wore a sweater stained with grease and food which he had dropped, and his room had the general appearance of a pig pen. Evidence of latent homosexuality appeared. The basic personality characteristics of the men were accentuated by the drugs.

Title 16 is, "Cecil's room on the thirty-fourth day of intoxication."

Title 17 is, "The degree of intoxication varied widely from day to day."

Title 18 is, "The variation was partly due to variations in food intake."

During the experiment it was noted that on some days the men would become quite drunk whereas on other days, although they received identical doses of the drug, they were relatively sober.

Further investigation showed that on days during which the men were quite intoxicated that they did not eat their breakfast but set it aside until after they had received their morning dose. Therefore, it was necessary to check their food intake on every morning on which tests were conducted. This reduced the magnitude of the variations but did not completely prevent them.

Title 19 is, "Jack on the forty-fifth day of intoxication 50 minutes after 0.3 grams of seconal."

On this day Jack ate and, as you see, is relatively sober.

Title 20 is, "Jack on the sixty-fifth day of intoxication 50 minutes after 0.3 grams of seconal."

On this day Jack ate very little breakfast and is obviously much more intoxicated than in the previous sequence.

Title 21 is, "Sometimes the men fell and were hurt. They also fought with one another."

In this respect, chronic barbiturism again resembles chronic alcoholism.

Title 22 is, "Jack fell and fractured two ribs."

Title 23 is, "It was difficult to judge whether any tolerance developed."

Title 24 is, "Jack on twenty-third day of intoxication after 0.3 gram of seconal. Total dose 1.3 grams daily."

In this scene we see Jack relatively sober.

Because of the variation from day to day it was extremely difficult to determine whether or not the men developed any tolerance to the effects of the drug. However, the experiment, which will be described at the close of the movie, proved that the men did develop some tolerance. There were also indications of tolerance in their electroencephalograms and in some of the psychometric tests.

Title 25 is, "Jack on seventy-ninth day of intoxication after 0.3 gram of seconal. Total dose 1.3 grams daily."

Here we see that Jack was much more intoxicated on the seventy-ninth day than he was on the twenty-third day although his total daily dosage still remains the same.

Title 26 is, "Withdrawal."

Title 27 is, "Weakness, anxiety, convulsions and delirium developed after withdrawal." In the first 12 to 16 hours following withdrawal from barbiturates, the patients appeared to improve, become less intoxicated and seemed on the way to recovery. Thereafter they became weak, apprehensive, frightened, and were afraid to stand up. Here we see Jack on the second day of withdrawal. He is very weak, sways when he stands, has a marked tremor, and is obviously frightened. The neurological signs which were present during intoxication have disappeared. Those manifestations which resemble neurological signs are actually due to weakness and anxiety.

Title 28 is, "Jack had two convulsions and became psychotic on the fifth night of withdrawal."

Title 29 is, "Jack's seventh day of withdrawal."

Jack had one convulsion at the thirty-ninth hour of withdrawal and another during the fifth day. Following the second convulsion, he gradually became confused and began to experience both visual and auditory hallucinations. He thought that smoke rings floated through the air and, when they went into one of his ears, he pulled them out of the other. Various people tried to assault and kill him. Nonexistent persons came into the room and talked to him. In this scene, we see Jack talking with a physician. He believed that cotton was growing in his mouth, and he tried to pull it out. Throughout the entire psychotic episode, Jack maintained his orientation in person but was completely disoriented in time and place.

Title 30 is, "Cecil had three convulsions but did not become psychotic."

Title 31 is, "Cecil at the sixteenth hour of withdrawal."

Not all patients who are withdrawn from barbiturates become psychotic and not all patients develop convulsions. In this particular scene, we see Cecil 16 hours after he had received his last dose of amytal. Just before this movie was taken, Cecil had become very weak and apprehensive. He could not explain the basis of his fears. He thought that something bad was going to happen. After he was taken to the electroencephalographic room, he began to have bouts of uncontrollable jerking, all of which began in his left leg. These episodes were not associated with loss of consciousness. Bursts of large slow waves which were noted in all patients prior to the development of convulsions, were seen in his electroencephalogram. The episodes of jerking persisted, in Cecil's case, until the thirtieth hour of withdrawal at which time he had his first grand mal convulsion.

Title 32 is, "Cecil, thirty-ninth hour of withdrawal. Grand mal convulsion."

In this scene we see Cecil shortly after the beginning of his third grand mal convulsion which occurred at the thirty-ninth hour of abstinence from barbiturates. Note the carpopedal position of his hands during the tonic phase of the convulsion.

Clonic jerks of all four extremities follow. If one looks closely, salivation can be observed. The convulsion was clinically indistinguishable from a grand mal convulsion due to idiopathic epilepsy.

The electroencephalogram during these convulsions showed large, high potential, spikes and was identical with electroencephalograms recorded during convulsions due to grand mal epilepsy.

Following the convulsions the patients were confused for a time but after an hour or so regained their orientation. Prolonged stupor such as occurs after convulsions due to true idiopathic epilepsy did not occur in this experiment. Transient Babinski signs and ankle clonus were observed following the convulsions.

Title 33 is, "Fred had no convulsions but became psychotic."

Title 34 is, "Fred, fifth day of withdrawal."

During the first 4 days of withdrawal, Fred lost a great deal of weight, was weak, had difficulty in making cardiovascular adjustments on standing, but maintained his orientation in time, place, and person and had no convulsions.

On the fourth night of withdrawal, Fred did not go to sleep and finally asked for a doctor. He said that something was wrong and wanted to find out what it was. He was afraid that his brain had

slipped down into his body and wanted an electroencephalogram made. He lay on the bed and watched the wall where he saw nonexistent people, animals, airplanes, parts of himself, and so forth.

At times he was amused by his hallucinations and at other times he was frightened by them. From time to time he began to hyperventilate spontaneously but would cease on command. The significance of the hyperventilation is unknown. Probably it had some sexual meaning.

Title 35 is, "Fred, fifth night of withdrawal."

As the day went on, Fred became more and more psychotic. During the night he became disoriented in all three spheres. He lay on the bed grimacing and gesticulating with a comb. He appeared to be leading a band or trying to hit insects which were flying by. He would not answer questions, was completely out of contact, and simply gibbered and yammered. Many of his hallucinations were of a sexual nature. He masturbated three times during the night. The following day his psychosis began to improve and after 5 days was completely gone.

Title 36 is, "All patients recovered completely."

Title 37 is, "Jack, Fred, and Cecil 56 to 97 days after withdrawal began."

All patients became entirely well although Jack became so apprehensive and agitated during his psychosis that he had to be returned to seconal and gradually withdrawn. No treatment was given the other patients. Psychosis usually disappeared in less than 10 days in all cases and no convulsions were seen later than the fifth day of withdrawal. About 2 to 3 months after withdrawal began, all patients were completely well as judged by physical, psychiatric, neurological, electroencephalographic, and psychological examinations. Hence, there appears to be no permanent damage associated with chronic barbiturate intoxication.

Three months after withdrawal began, four of these patients were recalled and abruptly replaced on the same dosage of barbiturates which they had been taking at the end of the experiment. This was done in order to determine whether they could tolerate this dosage when abruptly placed on it as well as they could when that same dosage level was attained gradually.

In all four instances, the patients became much more intoxicated than they were at any time during the experiment. In fact, they became so drunk that after the second or third dose, reintoxication had to be discontinued. Therefore, it seems clear that some degree of tolerance did develop during chronic intoxication to barbiturates.

The symptoms noted following withdrawal, weakness, anxiety, disturbances in making cardiovascular adjustments on standing, insomnia, convulsions, delirium, and so forth are not seen as long as individuals continue to take barbiturates.

These signs, therefore, represent true abstinence phenomena and the opinion, which has been widely held in the United States, that physical dependence does not develop on barbiturates is no longer tenable.

Addiction to barbiturates resembles chronic alcoholism. The signs of intoxication are the same and development of convulsions and a delirium are very similar to the syndrome known as alcoholic delirium tremens. Similar syndromes have been described following with-

drawal of chloral hydrate or paraldehyde from persons who had been chronically intoxicated with those drugs. It is very likely that delirium tremens is not a syndrome which is specific for alcoholism but represents a physiological disturbance which may follow long intoxication with any of a number of potent hypnotic drugs.

No matter how one defines the term, the barbiturates are addicting drugs. The same phenomena seen in morphine addiction—tolerance, physical dependence, and emotional dependence—are all observed during addiction to barbiturates. Addiction to barbiturates is, in fact, far more dangerous and undesirable than is addiction to morphine.

I might say, though, that one of the men in the picture who had been an addict of barbiturates twice before has since this experiment was completed relapsed to taking barbiturates twice again. He still has a barbiturating craving, and at a later period may go out and get full of barbiturates and renew it. So, the tendency to relapse will be great just as it is in an alcoholic condition.

Mr. JENKINS. Where did he get his barbiturates, at the drug store?

Dr. ISBELL. For this experiment?

Mr. JENKINS. You say that he relapsed. Where did he get his barbiturates, at the drug store?

Dr. ISBELL. At the drug store, yes, sir.

Mr. JENKINS. Without a prescription?

Dr. ISBELL. I do not know. Usually it is very easy to get them. All you have to do is go to a doctor and say to the doctor, "Doctor, I am nervous, I am having trouble with my wife, I cannot sleep," and the doctor pulls out his pen and writes a prescription and says, "Here, take 12 of these," and with the next doctor he does the same thing, and the doctor gives him 12 more, and in a little while he will have 36, and then if the State does not have an antirefill law he takes his box back to the drug store and gets some more.

Mr. HARRISON. How many States allow the refilling of these prescriptions without an additional doctor's prescription, a good many of them?

Dr. ISBELL. There are a good many that have an antirefill law. There is a model law that the American Pharmaceutical Association is trying to get all States to pass, which does prohibit refills. How many States have adopted that law, I do not know. Do you know, Mr. Anslinger?

Mr. ANSLINGER. Very few of them.

Mr. JENKINS. I read a book on insanity once when I had a big lawsuit involving insanity, and I found that this kind of cunning in finding this stuff is characteristic of insane people, and I suspect that these fellows are cunning even though they get knocked out when they take it.

Dr. ISBELL. They are not very smart when they are taking as many barbiturates as these men were taking. One of these men was really an expert thief. While he was under the influence of barbiturates he tried to steal cigarettes from one of the inmates, and he got caught.

Mr. SIMPSON. When a fellow goes out to get a prescription to get these drugs he takes a lot of them at one time for the purpose of getting drunk, is that what he does?

Dr. ISBELL. Actually it begins in two ways. The boy Cecil who was shown in the picture is an example of the form of psychopaths

who likes to get drunk. They find out about these drugs and that they can use them for just the purpose of getting intoxicated, so they take a lot originally, and they build up their consumption and in a very short period of time they take an enormous amount of them.

Mr. SIMPSON. People who allegedly commit suicide from taking these things take a lot of them, do they not?

Dr. ISBELL. Yes. Fortunately, however, the drugs are very safe, really. It is pretty hard for them to kill themselves with these things. The mortality rate is only about 8 percent. I think, sir, we have had about, roughly, 1,000 to 1,500 deaths due to acute barbiturate poisoning. Those cases that are due to the excessive consumption of barbiturates where there is acute poisoning, amount to about 8 percent deaths.

Mr. BOGGS. What is the connection between alcoholism and this type of drug addiction?

Dr. ISBELL. It is very close, sir. One of the reasons for the start of becoming a barbiturate addict is the fact that you are an alcoholic. Say you get up one morning shaky, so you go to the doctor and say, "I am a rocky." So, he says, "You need some sedation." So, he gives you a prescription for barbiturates and you take one. That is not enough, so you take two or three, and every night you drink and say these are wonderful. You put these in your pocket and take one, and there is no odor on your breath. So, alcoholism is one of the predisposing things that leads to this use of barbiturates. I believe there was considered the question about the use of these drugs leading to something stronger. I think commonly the use of some other drug commonly leads to barbiturate addiction rather than the reverse.

Mr. BOGGS. Now, these drugs are prescribed by physicians all over the country, are they not, and they really have a very important place as sedatives?

Dr. ISBELL. This is one of most important groups of drugs in medicine. There is no other group of sedative drugs that is as important, as flexible or as safe.

Now, doctors prescribe lots of them. They prescribe them for millions of people, and it is only the occasional person who is going to get into a situation like this. The situation is just like the use of alcohol. There are millions of people in the United States who can drink a little or leave it alone, just like there are millions of people in the United States who take barbiturates occasionally on the advice of their physician or on a train trip or something like that. It is only the occasional individual that this chronic use happens to.

Mr. BOGGS. Where do you draw the line?

Dr. ISBELL. That is something like alcoholism. I have attempted to draw it as far as it can be drawn. I believe that the individual who does not take more than one or two of these capsules a day and takes them only at night, I believe that that is a legitimate use provided he is taking them on medical advice.

I believe when the individual begins to take more than two that the situation is beginning to get a little bit thick, and maybe he is on the way to becoming a barbiturate addict, and when he is taking eight a day, and taking some of them in the daytime, definitely he is one.

Mr. BOGGS. What happens in a normal case? Now, let us say there is a member of Congress who has been working very hard,

drawal of chloral hydrate or paraldehyde from persons who had been chronically intoxicated with those drugs. It is very likely that delirium tremens is not a syndrome which is specific for alcoholism but represents a physiological disturbance which may follow long intoxication with any of a number of potent hypnotic drugs.

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Dr. ISBELL. Yes. Fortunately, however, the drugs are very safe, really. It is pretty hard for them to kill themselves with these things. The mortality rate is only about 8 percent. I think, sir, we have had about, roughly, 1,000 to 1,500 deaths due to acute barbiturate poisoning. Those cases that are due to the excessive consumption of barbiturates where there is acute poisoning, amount to about 8 percent deaths.

Mr. BOGGS. What is the connection between alcoholism and this type of drug addiction?

Dr. ISBELL. It is very close, sir. One of the reasons for the start of becoming a barbiturate addict is the fact that you are an alcoholic. Say you get up one morning shaky, so you go to the doctor and say, "I am a rocky." So, he says, "You need some sedation." So, he gives you a prescription for barbiturates and you take one. That is not enough, so you take two or three, and every night you drink and say these are wonderful. You put these in your pocket and take one, and there is no odor on your breath. So, alcoholism is one of the predisposing things that leads to this use of barbiturates. I believe there was considered the question about the use of these drugs leading to something stronger. I think commonly the use of some other drug commonly leads to barbiturate addiction rather than the reverse.

Mr. BOGGS. Now, these drugs are prescribed by physicians all over the country, are they not, and they really have a very important place as sedatives?

Dr. ISBELL. This is one of most important groups of drugs in medicine. There is no other group of sedative drugs that is as important, as flexible or as safe.

Now, doctors prescribe lots of them. They prescribe them for millions of people, and it is only the occasional person who is going to get into a situation like this. The situation is just like the use of alcohol. There are millions of people in the United States who can drink a little or leave it alone, just like there are millions of people in the United States who take barbiturates occasionally on the advice of their physician or on a train trip or something like that. It is only the occasional individual that this chronic use happens to.

Mr. BOGGS. Where do you draw the line?

Dr. ISBELL. That is something like alcoholism. I have attempted to draw it as far as it can be drawn. I believe that the individual who does not take more than one or two of these capsules a day and takes them only at night, I believe that that is a legitimate use provided he is taking them on medical advice.

I believe when the individual begins to take more than two that the situation is beginning to get a little bit thick, and maybe he is on the way to becoming a barbiturate addict, and when he is taking eight a day, and taking some of them in the daytime, definitely he is one.

Mr. BOGGS. What happens in a normal case? Now, let us say there is a member of Congress who has been working very hard,

and he goes over to Doctor Calver, and Doctor Calver says your blood pressure is up a little bit——

Mr. HARRISON (interposing). No, he does not say that; he says he is not sleeping very well.

Mr. BOGGS. So, the Doctor says you need a little seconal. That business actually helps the fellow, does it not?

Dr. ISBELL. Yes, it is very helpful, because this Congressman has been under a terrific strain, he is not feeling well, and he goes to the doctor and the doctor gives him this small box, and he takes only 1 or 2, which is just as effective as attempting to take 300. The Congressman goes home and takes them, and he takes them for a couple of nights and things get straightened out, and the third night he forgets to take them, and 6 months later in cleaning out the medicine cabinet he has 8 or 10 of these things left and he flushes them down the toilet. That is a common thing.

The effect of the drugs depends on the type that is used. Seconal is one of the shortest acting drugs, and usually causes less hangover than other drugs do, because its length of action is very short. The length of action of barbiturates is measured in hours, and in the case of seconal the action of it lasts about 6 hours.

Mr. SIMPSON. Are bromides connected in any sense with these?

Dr. ISBELL. A bromide is not an organic drug. It is a drug, of course.

Mr. SIMPSON. Is it habit forming?

Dr. ISBELL. It is in the sense that it predisposes individuals who take too much, and promises to develop very serious types of conditions.

(Discussion off the record.)

Dr. ISBELL. These drugs affect the activities of the blood and the nerve cells, and they affect the cells of cerebral cortex, and also another group of cells called the reticular formation. Anyway, it develops the activities of another group of cells whose function is to keep you awake—it induces sleep, and it develops activating these cells.

Mr. HARRISON. But in case of suicide the difficulty is getting exactly the right amount. If you get too much you vomit it up, is not that true?

Dr. ISBELL. As I say, they have a tremendous margin of safety. They are a lot safer than any other sedative drug. From the point of view of the use of it it is a lot easier with this one, or chloral, the old one than it is with barbiturates.

There was a question at that time about chloral, and paraldehyde.

Now, I would like to say that intoxication with those drugs is just like barbiturate intoxication. Furthermore, I would like to say that we believe that the same thing happens to an individual who takes too much alcohol or barbiturates. Chloral and paraldehyde are in a class of drugs, the action of which is very similar. There is no difference.

Mr. BOGGS. We had better see the other movie now.

Dr. ISBELL. This next motion picture is on the clinical characteristics of drug addiction.

(The following documents marked, "Exhibit A, April 14, 1951" were submitted by Dr. Isbell:)

Exhibit A

[Reprinted from Federation Proceedings, vol. 9, No. 1, March 1950]

Experimental Addiction to Barbiturates (Motion Picture). Harris Isbell, Sol Altschul, C. H. Kornetsky, H. F. Fraser, H. G. Flanary, A. J. Eisenman, A. Wikler and Harris Hill. Research Division, USPHS Hospital, Lexington, Ky.

Five former morphine-addict volunteers received barbiturates for 92–144 days. The highest daily dosages attained were 1.8, 1.8, and 3.8 gm. daily of seconal, pentobarbital, and amytal, respectively. While chronically intoxicated, all patients showed impairment of mental ability, increased emotional lability, infantile behavior and confusion. No toxic psychoses were observed while patients were taking the drug. Neurological signs included nystagmus, dysarthria, ataxia in gait and station, and depression of superficial abdominal reflexes. The effects of the same dose of the drug varied widely from day to day and was partially dependent on food intake. Partial tolerance was observed. In the electroencephalogram the percentage of β waves was increased. Following withdrawal of barbiturates, neurological signs disappeared and weakness, anxiety, anorexia, nausea, vomiting, rapid weight loss, fever, elevation of NPN's, convulsions (4 of 5 patients) and a psychosis (4 of 5 patients) resembling alcoholic delirium tremens were observed. During withdrawal, the percentage of β waves was reduced in the electroencephalogram and paroxysmal bursts of slow waves appeared. Recovery was complete.

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Manifestations and Treatment of Addiction to Narcotic Drugs and Barbiturates

Harris Isbell, M. D.*

Definition.—The term *drug addiction* has different meanings to different persons. Pharmacologists usually limit the definition of drug addiction to chronic intoxications which are followed by the appearance of a characteristic illness after abrupt and complete withdrawal of the particular intoxicant being used. Psychiatrists are likely to define drug addiction in terms of personalities, or in terms of the psychodynamics which underlie the addiction. Social workers and law enforcement officers are inclined to define addiction in terms of the effects on the individual's relationship to society and the effects the intoxication may have upon propensities to commit crime.

A comprehensive definition of drug addiction must take into account all these various points of view. We, therefore, prefer to define addiction as a condition of chronic intoxication, which is usually based on a personality disorder and which causes serious harm to the individual, society, or to both, and which is condemned by the society in which the addiction occurs. This definition avoids the fixation on physical dependence inherent in the pharmacological definition, which, if accepted, tends to focus the attention of the physician chiefly on the withdrawal phase of treatment and to cause neglect of the more important and difficult psychiatric phase of therapy. Our definition also recognizes that effects which occur while the addict is intoxicated with the drug—impairment of ability to work and produce, impairment of ability to perform skilled acts because of ataxia, and the development of bizarre behavior—are just as undesirable, and frequently more undesirable, than the symptoms of a withdrawal illness.

Types of Addiction in the United States.—In the United States the important addicting drugs are opium, in the form of any of its preparations or alkaloids; the new synthetic analgesic drugs (meriperidine, ketobemidone, methadone, isomethadone); alcohol; the barbiturates and other sedative drugs; marihuana; cocaine; and amphetamine (benzedrine). In this paper, the discussion will be limited to addiction to the opiates, or equivalent drugs, and to the barbiturates.

Although the incidence of addition to the opiates and similar drugs has steadily decreased since the passage of the Harrison Narcotic Act, there are indications that addiction to barbiturates is increasing. Statistics show that the production of barbiturates is far out of proportion to the amounts needed for therapeutic

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purposes. Acute barbiturate intoxication accounts for the greatest proportion of cases of acute poisoning admitted to general hospitals, and barbiturates are now the most popular agents in suicidal attempts. In federal institutions devoted to the treatment of drug addiction, the proportion of morphine addicts who are also using barbiturates has risen steadily over the past several years and the number of letters from persons seeking treatment for pure barbiturate addiction has also increased.

Etiology.—It is extremely important in attempting to treat any type of drug addiction to realize that addiction is not a desease, but is a symptom of a psychiatric disorder. This implies that withdrawal of drugs is simply the first part of the treatment of drug addiction and that, unless withdrawal is followed by a long period of physical and psychiatric rehabilitation, treatment is inadequate. The psychiatric conditions which are responsible for most types of drug addiction are psychoneuroses of various types, particularly neuroses associated with anxiety and tension and the so-called character disorders (psychopathic personalities). Conflicts centering around excessive dependence are very common in drug addicts. Major psychoses apparently play no role in the genesis of drug addiction. The precipitating factor in drug addiction is, of course, contact with a drug. Most frequently contact results from deliberate experimentation with the drug because of association with persons who are already addicted. Contact because of therapeutic administration plays only a minor role in the genesis of chronic intoxication with cocaine or amphetamine, and has surprisingly little to do with addiction to opiates. Less than 5 percent of the morphine addicts in the United States begin their addiction as a result of therapeutic administration of morphine. Carelessness in medical use, however, appears to be much more common with the barbiturates and other sedative drugs than it is with the opiate drugs. Many persons become addicted to barbiturates as a result of careless therapeutic usage of these drugs by physicians.

Continuation of the use of the drug by an addict is, in the beginning at least, always due to the desire to enjoy the intoxicating effects of the drug. This desire is, of course, reinforced, and perhaps even replaced, in morphine addiction by the necessity for taking the drug to prevent the appearance of abstinence symptoms.

ADDICTION TO OPIATES

Addiction to any of the drugs falling into this group, which includes the synthetic analgesic drugs, is characterized by the appearance of three closely interrelated phenomena. These are, *tolerance*—which refers to the diminution in the effect of the drug on repeated administration; *physical dependence*—which is defined as an altered physiological state brought about by repeated administration of the drug, which necessitates continued administration of the drug to prevent the appearance of a characteristic illness; and *habituation*, or emotional dependence—which refers to compulsive use of the drug as an answer to all of the stresses and problems of life.

When addicts first begin the use of morphine or similar drugs, they experience a pleasant relaxation associated with a sense of warmth and develop a peculiar semisomnolent state manifested by periods of light sleep alternating with brief periods of wakefulness. In this condition, morphinists defer decisions and do not engage in productive effort. They are content to nod and dream. If the drug is taken intravenously, a pleasurable tingling spreads over the entire body. This sensation has been compared to a sexual orgasm and is extremely attractive to persons with psychopathic personalities. Even when intoxicated with an opiate to such a point that respiration is depressed and periodic, persons taking morphine or similar drugs can be aroused easily, are perfectly rational and able to converse coherently. Very little impairment of muscular coordination occurs, hallucinations never appear, and aggressive, assaultive behavior is seldom seen.

The chief charm of the opiates may be due to the fact that one can be very pleasantly intoxicated without exhibiting any of the signs or behavior associated with drunkenness. In addition to the pleasurable effects, morphine produces side effects which are disagreeable, but which are tolerated by the addict as a part of the price paid for the pleasure experienced. These side effects include nausea, vomiting, itching of the skin, miosis, lack of appetite, and constipation.

As time goes on, the addict finds that he must continually increase his dosage in order to obtain the desired sensations. Finally, such a degree of tolerance is developed that the effects of morphine are no longer pleasurable in a positive sense, and the drug is taken chiefly to prevent the appearance of withdrawal symptoms.

Withdrawal Symptoms.—If morphine is abruptly withdrawn from a person who has become tolerant to as much as 240 mg. of morphine, a characteristic illness develops which is one of the most stereotyped syndromes seen in clinical medicine. About eight to fourteen hours after the last dose of morphine has been received, the morphine addict falls into a restless, tossing sleep which may last several hours. About the sixteenth or eighteenth hour of withdrawal, after the patient has awakened, slight lacrimation, rhinorrhea, perspiration and yawning appear. Restlessness and nervousness ensue and become progressively worse as the hours go by. Twenty-four hours after the last dose of the drug, most patients are acutely miserable and complain of chilly sensations and of cramps in the muscles of the back and extremities. Lacrimation, rhinorrhea, perspiration and yawning become marked, and recurring waves of gooseflesh and mydriasis appear. Mild hypertension, hyperpnea, fever, leukocytosis and hyperglycemia are present. Patients become so restless that they move continuously from one part of the bed to the other. They twitch their arms, legs and feet almost constantly. This twitching of the legs has given rise to the term "kicking the habit." Patients may become so uncomfortable that they may leave their beds and lie on a hard concrete floor in an attempt to obtain some ease from the muscular cramping and aching. They are nauseated, gag, retch, vomit, have diarrhea, and may lose five to fifteen pounds in twenty-four hours. All these symptoms increase in intensity until the thirty-sixth to the forty-eighth hour after the last dose of morphine was given. Peak intensity of the syndrome is maintained until about the seventy-second hour, after which it begins to decline. Five to seven days after the last dose was given, practically all acute symptoms have disappeared and the only complaints remaining are nervousness, insomnia and weakness. These gradually decline over the course of three to four months.

The course of abstinence from other analgesic drugs differs from abstinence from morphine chiefly in the time of onset, duration, intensity, and the rate of decline. Abstinence from heroin, dilaudid, dihydrocodeinone, desomorphine, and keto-bemidone (a derivative of meperidine) comes on very rapidly, reaches peak intensity eight to twelve hours after the last dose of the drug was administered and declines rapidly thereafter. The intensity of abstinence from these drugs is at least equal to, and usually greater than, the intensity of abstinence from morphine. Abstinence from methadone appears quite slowly, is quite mild and is characterized by the presence of few signs of disturbed autonomic function. Abstinence from methadone, however, declines quite slowly and leaves the patient weaker than does abstinence from morphine. Abstinence from isomethadone comes on at about the same rate as does abstinence from morphine, is less severe, and declines at about the same rate. Abstinence from merperidine (demerol) comes on and declines rather rapidly and, although it is quite definite, it is not as severe as abstinence from morphine. Abstinence from codeine is slow to appear and is even milder than abstinence from merperidine.

ADDICTION TO BARBITURATES

The statement is frequently made that the barbiturates are not addicting. This idea is usually based upon the belief—now known to be erroneous—that no abstinence symptoms occur after abrupt withdrawal of barbiturates from an individual who has been chronically intoxicated with these drugs. Even if physical dependence did not occur, chronic barbiturate intoxication produces great harm to both the individual and to society and, therefore, would be classed as an addicting drug under the terms of our definition.

From a physical point of view, addiction to barbiturates is more undesirable than is addiction to any of the opiates, but it is as yet unknown whether barbiturate addiction represents as severe an emotional catastrophe as does opiate addiction. The effects of the barbiturates are somewhat similar to those of alcohol, and frequently both alcohol and barbiturates are used together. Both barbiturates and alcohol produce a short-lived relief from emotional tension which, to people with susceptible personalities, seems to offer a solution for many of life's difficulties. Some individuals who use barbiturates appear to be motivated by a desire for complete unconsciousness.

Although addicts will take any of the compounds in this class, they usually prefer pentobarbital (nembutal), seconal, and amytal, in the order named. The drugs are usually taken orally but some morphine addicts will dissolve the contents of the capsules and inject them intravenously. The manner in which the drugs are used varies greatly. Many individuals indulge in debauches of a few days' duration; other individuals take the drugs continuously for periods of months or even years. The amount taken also varies over a wide range, but

most chronic habitués probably take between 0.5 to 2.0 gm. of the drug daily. Barbiturate users are so confused by the drug that they frequently do not know how much they have been taking.

The symptoms and signs of chronic barbiturate intoxication are predominantly those of cortical depression and of cerebellar dysfunction. Cortical depression is manifested by difficulty in thinking, inability to perform simple calculations and psychometric tests, confusion, somnolence and defective judgment. The signs of cerebellar dysfunction include nystagmus, ataxia in gait and station, adiadokokinesis, choreiform movements, dysarthria and tremors. Because of these neurological disturbances, barbiturate addicts frequently fall and injure themselves. The superficial reflexes may be absent but the deep reflexes, the corneal reflex, and the pupillary reflexes are seldom altered unless a severe acute intoxication is superimposed upon the chronic intoxication already present. The pulse, blood pressure and respiratory rate are not significantly changed. Body temperature may be slightly depressed. Very little, if any, tolerance develops to any of these effects.

When several doses of a barbiturate drug are taken daily, cumulation of the effects occur even though a drug whose actions are regarded as very short (seconal) is used. The degree of the effects of the same dose of barbiturates varies greatly in the same individual from day to day. This variation, like the variation in the effects of alcohol, is partially related to food intake. The effect of a barbiturate is much greater if the drug is ingested while the stomach is empty.

Chronic barbiturate intoxication always causes marked social and emotional deterioration. Barbiturate addicts neglect their personal appearances and are unable to work or care for themselves adequately. They are rejected by their families, lose their jobs and their friends. Barbiturate addicts often smoke in bed and may start serious fires. They may commit crimes and not remember them. The behavior of persons chronically intoxicated with barbiturates resembles the behavior of chronic alcoholic and appears to be influenced to some degree by their basic personality make-up and by the mood prevailing on any given day. A barbiturate addict may be hilariously amused one day and depressed and weeping the next. Loss of emotional control frequently occurs and addicts are likely to fight over minor matters. Some individuals become infantile, weep easily, and manage to have other persons attend to their bodily needs. Others may develop paranoid ideas and in this state are somewhat dangerous. Tendencies to depression are accentuated by chronic barbiturate intoxication, and certain patients begin to verbalize vague desires for death. Hallucinations and delusions are uncommon as long as the addict is continuing to take the drug but weird dreams occur frequently.

Withdrawal symptoms.—Despite statements to the contrary in standard textbooks, severe symptoms develop after abrupt withdrawal of barbiturates from chronically intoxicated individuals and may occur if dosage is suddenly reduced to 20 to 50 percent of the amount the addict is accustomed to using. Abstinence from barbiturates is, in fact, much more dangerous to life than is abstinence from morphine. During the first twelve to sixteen hours of withdrawal, the patients improve and signs of cerebellar dysfunction disappear. As the signs of intoxication decline patients become apprehensive and so weak that they can hardly stand. Fasciculation of various muscles appears and a coarse tremor of the hands and face becomes evident. The deep reflexes are hyperactive and slight stimuli may cause excessive muscular responses. Patients cannot sleep, are nauseated, have abdominal cramps and frequently vomit. Systolic blood pressure is elevated about 20 mm. of mercury and the pulse rate is increased ten to twenty beats per minute. Fever of about 0.5° C. appears. Patients may lose as much as 5 kilograms (12 pounds) weight in the first thirty-six hours of abstinence. Weight loss is probably due to loss of body water from vomiting, to decreased intake of fluid, or to both. Elevation of the nonprotein nitrogen content of the blood, hyperglycemia and hemoconcentration appear, and are probably attributable to dehydration.

Patients also develop difficulties in making cardiovascular adjustments on assuming the upright posture. On standing, their pulse rates rise 40 to 80 beats per minute and systolic blood pressure falls, 15 to 50 mm. of mercury, while the diastolic blood pressure increases, thus narrowing the pulse pressure. These phenomena, unlike those seen in normal individuals, become more marked the longer the patients remain standing. Patients become pale, begin to perspire, and may be unable to stand for more than two or three minutes. These cardiovascular changes are not similar to those of postural hypotension in which both systolic and diastolic pressures decrease on standing, and in which the normal

increase in the pulse rate fails to occur. The disturbance in cardiovascular physiology observed during withdrawal from bartiturates resembles the disturbance seen during or after many severe illnesses. No clinical or electrocardiographic evidence of myocardial damage is present.

As serious and severe as these symptoms are, they are followed by even more dangerous phenomena. Between the sixteenth hour and the fifth day of withdrawal, but usually about the thirtieth hour, patients may have one or more convulsions which are typically grand mal in type. Convulsions are preceded by a cry, patients fall and go into a state of tonic extension which is succeeded by clonic movements of the extremities. Cyanosis, salivation, micturition, and defecation may occur during the convulsion. After the convulsion is over, patients regain consciousness within a few minutes. They may be slightly confused for an hour or two but prolonged stupor, such as is seen following grand mal convulsions due to idiopathic epilepsy, seldom occurs. Patients usually have no more than three major convulsions, but numerous minor episodes characterized by clonic twitching without loss of consciousness or by writhing, athetoid movements of the extremities may occur before, between, or after the major convulsions. Hyperventilation, followed by paresthesia of hands and feet, also occurs. The significance of these spells is unclear. They may represent incomplete seizures, hysterical reactions, or, since they are more prone to appear if the patient is standing, they may be related to the derangement in cardiovascular function. Between convulsions or following convulsions, patients continue to exhibit weakness, slight fever, disturbed vascular adjustments to change in posture, tremor, anorexia, and nervousness. Unless the patient becomes psychotic, these symptoms gradually disappear and after two or three weeks patients have usually recovered completely.

During chronic intoxication with barbiturates, many high voltage waves of fast frequency (beta waves) appear in the electroencephalogram. Following withdrawal of barbiturates, these beta waves disappear and paroxysmal bursts of high voltage waves of slow frequency appear. These paroxysms of slow waves precede the development of convulsions and may persist for a week or ten days after the last convulsion has occurred. During the convulsions the electroencephalographic pattern is identical with that of convulsions due to grand mal epilepsy, and immediately after the seizure, large, slow waves are seen.

Whether or not convulsions occur, patients may develop a psychosis which usually appears between the third and seventh days of abstinence. The onset of the psychosis is often heralded by insomnia of twenty-four to forty-eight hours' duration, after which patients begin to experience hallucinations, both visual and auditory, the former being much more prominent. The hallucinations at times seem to be amusing and at other times are very disturbing. Patients may see little people, giants, absent relatives, animals, insects, birds, snakes, fish, and so on. Patients may believe that imaginary persons are trying to harm them. They may state that they have been blown up, cut with knives, and forced to drink poison. The patients are confused and usually disoriented in time and place, but not in person. They may misidentify objects and persons. They have a marked tremor. The emotional reaction to the psychosis appears to be influenced by the patient's basic personality. Some individuals become extremely agitated and try to fight or escape from their imaginary persecutors and may become dangerously exhausted. Other persons may lie quietly and watch their strange visitors and listen to imaginary music without taking any action. Some patients are, in fact, so quiet, even though they are having hallucinations, that the psychosis may not be detected unless specifically looked for. The psychosis may also resemble schizophrenia. Patients may show mutism, bizarre affect, have ideas of control and influence, build up a system of paranoid delusions, and experience sexual hallucinations. The psychosis is likely to appear and is frequently more severe during the night.

Even if not treated, patients will usually recover from the psychosis within two weeks of its onset. Some patients recover in three or four days, and some may require two or three months. Improvement generally begins with a return of the ability to sleep. The hallucinations become less vivid and finally fade, but the patient may, for a few days, believe that the hallucinations were real. After recovery, most patients can recall and describe the hallucinations they experienced during the psychosis.

Recovery from chronic barbiturate intoxication and from the barbiturate withdrawal syndrome appears to be complete. If any permanent, anatomic damage remains, it is so slight as to be undetectable by the usual clinical and psychological tests.

The barbiturate abstinence syndrome varies considerable from patient to patient. Some patients have convulsions but escape the psychosis; other patients may not have convulsions and develop a psychosis; and other patients may escape both.

TREATMENT

The treatment of any type of drug addiction is primarily a psychiatric problem and favorable results cannot be expected unless treatment is continued for a period of several months. Attempts to treat drug addiction in the home or office practically always fail, and institutional treatment is usually required. Patients seeking treatment for addiction should, therefore, be referred to one of the private institutions devoted to the care of drug addiction or to the U. S. Public Health Service Hospitals at Lexington, Kentucky or at Forth Worth, Texas. These last two institutions can accept persons addicted to opiates, cocaine, or to marihuana, but cannot admit individuals addicted only to barbiturates, benzedrine, alcohol, or bromides. Information concerning these institutions can be obtained by writing to the hospitals or to the Surgeon General, United States Public Health Service, Washington, D. C.

Treatment can be divided into two phases: (1) withdrawal of drugs, and (2) rehabilitative and psychiatric treatment.

Withdrawal of Opiates.—The best plan of treatment in withdrawing morphine, or similar drugs, from addicted persons involves substitution of methadone for whatever drug the patient has been taking and then reduction of the dosage of methadone over a period of about ten days. This plan of treatment is based on the fact that, although methadone will prevent the appearance of signs of abstinence from any of the known analgesic drugs, abstinence from methadone is milder than abstinence from any of these other drugs. One milligram of methadone can be substituted satisfactorily for 4 mg. of morphine, 2 mg. of heroin, 1 mig. of dilaudid, or 20 to 30 mg. of either meperidine or codeine. Owing to the fact that methadone is a slowly acting, cumulative drug, patients should be given a mixture of methadone and the drug to which they are accustomed during the first day of treatment. Unless a mixture is used, abstinence signs may appear. Drugs should be administered every six hours. The first dose consists of a small amount of methadone and a large amount of the patient's accustomed drug. The second dose should contain more methadone and less of the patient's drug. The third dose should contain mostly methadone. The fourth dose is all methadone. Thereafter, only methadone is used. Usually 5 to 30 mg. of methadone every six hours is sufficient to prevent the appearance of signs of abstinence, regardless of the amount or the drugs the patient has been taking. The patient should be continued on this dosage for a day or two. During this period, physical and laboratory examinations should be completed and a certain amount of psychiatric rapport gained. Reduction of methadone is then begun by cutting the amount of methadone to 50 percent of the substitution dose. This level should be maintained for two or three days, after which the dosage is cut to about 30 percent of the substitution dosage, and maintained at that level for two days. Thereafter, the amount of methadone is tapered off slowly, first reducing the amount of each dose, and finally omitting doses. In most instances, the patient should be completely withdrawn from drugs within ten days after the reduction begins. There is no point in extending the withdrawal beyond this time, except in cases which are complicated by severe organic disease. In such instances, the withdrawal period may have to be extended to a month or more.

The following represents a typical withdrawal:

> A 40-year-old-white man was admitted and gave a history of taking approximately 480 mg. (8 grains) morphine daily intravenously. Preliminary physical examination revealed nothing significant except emaciation, needlemarks, a few abscesses in the skin and pyorrhea. During the first day, the patient was given the following doses of morphine and methadone at six-hour intervals: First dose, 90 mg. of morphine and 10 mg. of methadone; second dose, 60 mg. of morphine and 20 mg. of methadone; third dose, 30 mg. of morphine and 25 mg. of methadone; fourth dose, 30 mg. of methadone. On the second day, the patient was scheduled to receive 30 mg. of methadone every six hours, but it was observed that he was quite heavily sedated, so the dosage of methadone was reduced to 20 mg. every six hours. By the third day, the patient was not sedated and grumbled about his dosage, although no signs of abstinence could be detected. Reduction was than carried out according to the following schedule: Fourth and fifth days, 10 mg. of methadone every six hours; sixth and seventh days, 5 mg. of methadone every six

hours; eighth day, 5 mg. of methadone at 6:00 A. M. and 10:00 P. M., and 2.5 mg. at 10:00 A. M. and 4:00 P. M.; ninth day, 2.5 mg. at 6:00 A. M., 10:00 A. M., 4:00 P. M. and 5 mg. at 10:00 P. M.; tenth day, 2.5 mg. of methadone at 6:00 A. M., 4:00 P. M. and 5 mg. at 10:00 P. M.; eleventh day, 2.5 mg. at 6:00 A. M. and 10:00 P. M.; twelfth and thirteenth days, 5 mg. of methadone at 10:00 P. M. Thereafter, no narcotic drugs were allowed. Mild signs of abstinence were occasionally noted between the eighth and sixteenth days of admission but were never present constantly.

Another effective method of withdrawing opiate drugs involves a simple ten-day reduction of whatever drug the patient has been taking. Minor signs of abstinence can usually be detected toward the end of withdrawal, regardless of the reduction schedule.

During the first half of withdrawal, no special dietary measures are needed. In the latter half, and for a week or two thereafter, the diet should be light and ample amounts of fluids, in the form of fruit juices and other attractive drinks, should be provided. Parenteral administration of fluid is seldom necessary.

During the first half of the withdrawal period, patients generally need no sedative drugs, but in the last half of withdrawal and for about a week thereafter, 0.1 to 0.2 gm. (1½ to 3 grains) of pentobarbital, or 1.3 to 2.0 gm. (20 to 30 grains) of chloral hydrate may be prescribed at night, depending upon the needs of the patient. One should guard against excessive use of sedatives and should give no more than will provide the patient with four or five hours of sleep nightly. The use of sedatives should be discontinued as soon as possible.

The emotional reaction of patients in withdrawal is frequently much more severe than the physical reaction. However mild their symptoms may be during the latter half of withdrawal, drug addicts will characteristically grumble, complain and feign illnesses in an effort to obtain increased amounts of drugs. The physician should adopt a firm attitude toward such manifestations and should proceed with the reduction as planned. Some individuals develop acute anxiety or hysterical reactions during withdrawal. Such episodes must be handled by appropriate psychotherapeutic technics as they arise. Generally, assurance and strong suggestion are sufficient. After withdrawal is completed, patients are weak and usually need to convalesce for seven to fourteen days prior to being assigned to an occupational therapy program. It is best to keep this period of convalescence as short as possible and to require the patient to start work as soon as his physicial condition will permit.

Withdrawal of Barbiturates.—Barbiturates should be withdrawn from barbiturate addicts very slowly and cautiously. On admission, it is best to give the patient 0.2 to 0.4 gm. (3 to 6 grains) of pentobarbital (nembutal), or an equivalent amount of any other barbiturate, every six hours. The dosage should be adjusted to a level which will maintain a mild degree of intoxication. After the patient has been observed for a day or two, reduction of barbiturates can be started. The dosage should not be reduced more than 0.1 gm. (1½ grains) daily at any one time. The total withdrawal period should extend over a period of three to four weeks. If the patient becomes nervous, apprehensive and weak, or if paroxysmal slow activity appears in the electroencephalogram, the reduction should be stopped until these signs have cleared. It is not known whether mesantoin, dilantin, or tridione would be effective in preventing convulsions or other features of the barbiturate abstinence syndrome.

Patients undergoing withdrawal from barbiturates must be kept under close observation. Their beds should be provided with sideboards, so that if convulsions occur they will not fall to the floor. Patients should not attempt to walk, bathe or go to the bathroom unattended. Diet should be light or soft throughout most of the period of withdrawal.

It must never be forgotten that acute barbiturate intoxication may be superimposed on chronic barbiturate intoxication. After a patient, who has been treated for acute barbiturate poisoning, has improved and is no longer comatose, one should determine whether the patient has been taking large amounts of barbiturates over a period of time. If this is true, the patient must be given a sufficient amount of barbiturates to reinduce mild intoxication, after which slow reduction is begun. If the patient's barbiturate intake is not restored, convulsions and/or psychosis may develop.

Many barbiturate addicts attempt to conceal their addiction. Others are mistakenly diagnosed as being alcoholics. In such instances, patients may not receive barbiturates after admission to the hospital, and the diagnosis of chronic barbiturate intoxication may not be made until the patient has had a convulsion or has become psychotic. In such instances, 0.25 to 0.5 gm. (3¾ to 7½ grains)

sodium amytal or pentobarbital should be administered, intramuscularly or intravenously, at once, after which the patient should be placed on a regular schedule of barbiturate medication for several days, then slow reduction of barbiturates is begun. Reinstitution of barbiturates stops convulsions immediately, but the barbiturate withdrawal psychosis may not clear up for several days after the patient is returned to drugs.

Mixed barbiturate and opiate addiction has become quite common. Withdrawal of both drugs can proceed concomitantly with more time being used to withdraw barbiturates than opiates.

Rehabilitative Therapy

Rehabilitative therapy follows the same lines regardless of the type of addiction. After denarcotization is completed, any organic disease which the patient may have should be treated appropriately. If the patient has diseases which are not curable, such as bronchial asthma or chronic rheumatoid arthritis, treatment should be designed not only to produce the greatest possible physical improvement but also to teach the patient how to live with his chronic disease without depending on narcotic drugs.

In patients whose addiction is due to intractable pain, approprite surgical procedures—sympathectomy, rhizotomy, chordotomy, lobotomy—should be carried out so that the patients' need for pain relief from drugs will be abolished.

All patients should be provided with the opportunity to engage in eight hours of productive, useful work daily. Occupational therapy should not be a matter of weaving rugs, but should maintain and add to any skills which the patient possesses. Patients with chronic diseases should not be allowed to vegetate on infirmary wards, but should, within the limits imposed by their diseases, be given some type of useful activity to pursue and, if possible, should be trained in some occupation which they can carry on despite their infirmity and which will enable them to support themselves when discharged. Patients should also have ample opportunity to engage in various recreational activities. These include a program of athletics, provision of movies, music, and other amusements, and an ample supply of reading material.

Psychiatric Treatment

The first step in psychiatric treatment consists of a complete examination which will reveal the patient's basic personality structure, his weaknesses and his assets. A decision must then be made as to whether intensive psychotherapy should be offered in any individual case. Many addicts who show intense infantile fixations, obtain very little benefit from psychotherapy, and in such instances, it is best to provide only for a short period of intensive institutional supervision, followed by a long period of close supervision in the patient's home environment. Other patients, who reaced a greater level of maturity prior to addiction, should be offered intensive psychotherapy designed to help them understand their fundamental problems and to foster their more hopeful assets. The manner in which psychotherapy is conducted will depend both on the personality of the patient and on the personality, training, and orientation of the therapist. The technics employed are highly individual and cannot be described in the space available. There are, unfortunately, not enough psychiatrists to administer psychotherapy to all the patients who need and will accept it. This deficiency in facilities may, perhaps, be partially bridged by organizing group psychotherapeutic sessions.

Many patients appear to derive great benefit from participation in activities of the groups known as Alcoholics Anonymous or the recently organized Addicts Anonymous. These groups also provide a continuing stimilus to remain abstinent from drugs after patients are discharged.

Most patients reach maximum improvement after about four months of therapy and, whenever possible, should be encouraged or even forced to remain in an institution for this period of time. Most adidcts, even though they may begin their treatment with the best intentions in the world, are likely to discontinue their treatment before it is completed. For this reason, it is best that patients be under some form of pressure to remain under treatment for the necessary period of time. Too long a period of institutionalization may foster dependent trends and do more harm than good.

Prior to discharge the patient should make a definite plan. He should have a job and a place to live. Arrangement for continuing supervision by the patient's family, physician, parole officer, minister, or his friends, should be made. If possible, one should avoid returning patients to an environment where frequent contact with other addicts is unavoidable. The resources of an efficient, well

organized social service department are very valuable in assisting patients in making proper plans.

About two months after discharge the patient should return to the institution for a follow-up examination. If possible, other follow-up examinations should be carried out at gradually increasing intervals until patients have been abstinent from drugs for a period of at least five years.

Although relapse is frequent after treatment for drug addiction, the outlook for addicts who have had adequate treatment is better than is commonly supposed. It is definitely known that 15 to 20 percent of addicts treated at the U. S. Public Health Service Hospital at Lexington, Kentucky have remained abstinent and many others, whose status is unknown, have also probably not relapsed to the use of drugs. Many patients remain abstinent for years prior to relapse, and such periods of abstinence represent a considerable gain.

SUMMARY

Drug addiction is a condition of chronic intoxication, usually based on a psychiatric disorder, in which a person abuses a drug to such an extent that harm is produced to the individual, to society, or to both, and which is condemned by the society in which the addiction occurs. The important addicting drugs in the United States are morphine and related compounds, the synthetic analgesics (methadone and meperidine), the barbiturates and other sedative drugs, marihuana, cocaine, and amphetamine.

2. The manifestations of addiction to narcotic drugs and to barbiturates has been described.

3. Treatment of drug addiction consists of appropriate type of withdrawal of the particular drug or drugs used followed by a long period of rehabilitative and psychiatric therapy.

4. Withdrawal of opiates or similar drugs is best effected by the gradual substitution of methadone for whatever drug the patient has been using, followed by reduction of methadone over a period of about ten days.

5. Withdrawal of barbiturates is best effected by gradual reduction of barbiturates. This is designed to prevent the appearance of a severe abstinence syndrome which is characterized by anxiety, weakness, tremor, insomnia, convulsions, and/or a psychosis resembling alcoholic delirium tremens.

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Addiction to Barbiturates and the Barbiturate Abstinence Syndrome*

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[Superior figures refer to bibliography at end of article]

The purpose of this paper is to point out that chronic intoxication with barbiturates represents a true addiction—no matter how addiction is defined—and to describe the manifestations of maintained intoxication with barbiturates as well as the signs and symptoms which occur following withdrawal of these drugs from chronically intoxicated individuals.

The increasing incidence of acute intoxication with barbiturates is unquestioned. Production of the barbiturates in the United States has increased 400 per cent since 1933. In 1948, over 300 tons of these drugs were manufactured.[1] Acute intoxication with barbiturates accounts for about 25 per cent of all cases of acute poisoning admitted to general hospitals[2] and more deaths are caused by barbiturates, either accidentally ingested or taken with suicidal intent, than by any other poison.[3 4 5 6] The number of deaths due to barbiturate poisoning has increased 300 percent since 1940. The large number of papers which have appeared in the medical literature on barbiturate poisoning and its treatment reflect the rising incidence and seriousness of the problem.

Although much less attention has been paid to chronic intoxication with barbiturates than to acute intoxication, there is evidence that chronic intoxication with barbiturates is increasing. This includes the increased incidence of chronic barbiturate intoxication among morphine addicts admitted to the United States Public Health Service Hospital at Lexington, Kentucky, the increased number of requests received at that institution concerning the manifestations and treatment of the condition, and the increased number of tips investigated by agents of the Bureau of Narcotics which prove to be cases of addiction to barbiturates and not of addiction to morphine. Officials of both Federal and State Food and Drug Administrations[6 7] have records of prescriptions for barbiturates which have been refilled hundreds of times. These officials also state that the illegal sale of barbiturates by unscrupulous pharmacists and by "goof-ball" salesmen is quite common.

The relative neglect of chronic barbiturate intoxication in the medical literature has probably been due to the erroneous impression, which has been widely held in both the United States and England, that abstinence symptoms did not follow abrupt withdrawal of barbiturates from chronically intoxicated persons. These drugs were, therefore, not believed to be addicting.[8 9 10 11] In recent years this mistaken concept has been shaken by the appearance of reports of convulsive seizures following withdrawal of barbiturates.[12 13 14 15] The Germans have long recognized that withdrawal of barbiturates from persons addicted to these drugs may be followed by the appearance of convulsions and/or a psychosis which resembles alcoholic delirium tremens.[16 17 18 19] In recent experiments, Isbell and his collaborators administered pentobarbital, seconal and amytal to former morphine addicts for three to five months.[20] Following withdrawal of the drugs from these patients, four of the five subjects developed convulsions and four of the five became psychotic. This experiment was important since it showed that the symptoms of abstinence from barbiturates were not due to a combination of intoxications, to malnutrition, or to a preexisting psychotic or epileptic diathesis.

ETIOLOGY OF BARBITURATE ADDICTION

As in alcoholism or narcotic drug addiction, the most important factor which predisposes to addiction to barbiturates is the presence of a personality defect. Although not as many data are available on the personality types of barbiturate users as on the personalities of morphine addicts, there appear to be no fundamental differences between these two groups of individuals.[18 20] Individuals with various kinds of psychoneuroses or character disorders (constitutional psychopaths) are very likely to become addicted to barbiturates—or any other drug—if introduced to it under proper circumstances. Many psychoneurotics become addicted to barbiturates as a result of the prescription of these drugs for insomnia. Characteristically, psychoneurotic patients maintain their dosage at low levels for considerable periods of time. When psychoneurotics do begin to elevate the dose they increase it rapidly and, as Pohlisch has said, the drug is

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changed from a means of inducing sleep to a means of producing intoxication.[17] Psychopaths begin the use of the drug in order to experience the intoxicating effects rather than to induce sleep. They, therefore, raise their doses very rapidly from the very onset of addiction and usually take as much as their inherent tolerances will permit.

In contradistinction to the situation in narcotic drug addiction, a large proportion of the cases of chronic barbiturate addiction result from administration of the drugs by physicians. This situation probably reflects the mistaken idea that the barbiturates are not addicting drugs.

Addiction to other drugs predisposes to addiction to barbiturates. Morphine addicts will use these drugs when they are unable to obtain morphine and frequently take them with morphine in order to reinforce the effect of the opiate. Alcoholics are likely to begin the use of the drugs to relieve the nervousness following a long debauch. They find that the effects are similar to those of alcohol and continue the use of barbiturates to induce intoxication rather than to relieve nervousness or insomnia.

TYPES OF ABUSE OF BARBITURATES

The potent short-acting barbiturates—pentobarbital, seconal, and amytal—are most popular with barbiturate addicts. The less potent long-acting drugs—barbital and phenobarbital—are less commonly used. The drugs are usually taken orally. Morphine addicts occasionally inject them intravenously. Due to the irritating properties of these compounds, subcutaneous injection is almost impossible as abscess formation will occur whenever the drugs are so administered. Like alcohol, addicts may use the drugs for short sprees lasting only for one night or a day or so, for long debauches of several weeks' duration, or they may take the drugs continuously for months or years. Use of barbiturates to reinforce the effects of alcohol is quite common and many psychopaths are introduced to barbiturates in this way. Some individuals abuse barbiturates and benzedrine concomitantly. This practice is reminiscent of the conjoint use of morphine and cocaine by narcotic drug addicts.

THE CLINICAL PICTURE OF BARBITURATE INTOXICATION

The signs and symptoms of chronic barbiturate intoxication are identical with those of moderately acute intoxication.[20] The phenomena observed are predominately due to the effects of the drugs on the central nervous system and may be divided into mental and neurological signs.

The mental signs of chronic barbiturate intoxication include impairment of intellectual functioning, confusion, poor judgment, depression, melancholia, and psychic regression. Individuals addicted to these drugs neglect their appearance, become unkempt, dirty, do not shave, and wear clothes soiled with food which they have spilled. They have difficulty in performing simple tasks or in carrying out simple psychological tests. They are irritable, morose, and quarrelsome. Their judgment is so impaired that, even when they are so intoxicated that they are unable to walk, they will continue to take more and more drugs. This condition has been termed automatism and may lead to death. They are careless with cigarettes and are quite likely to start serious fires. They become so depressed that suicide is a distinct possibility. They regress to an infantile level, have to be waited on, fed, and nursed. Emotional control is impaired and they are likely to fight over minor incidents or fancied insults. Some addicts become hostile and develop mild paranoid ideas.

True toxic psychoses seldom occur during maintained chronic intoxication with barbiturates. The addicts are usually oriented in time, place, and person and seldom have hallucinations or delusions. When toxic psychoses do occur they are usually due to superimposition of an acute barbiturate intoxication on the preexisting chronic condition.

Spectacular neurological changes are present during chronic barbiturate intoxication. These may suggest organic diseases of the nervous system such as Parkinsonism, multiple sclerosis, cerebellar brain tumors, and general paresis.[8] The signs observed include ataxia in gait and station, dysarthria, nystagmus, adiadokokinesis, hypotonia, tremor, decrease in the abdominal reflexes, and occasionally transient ankle clonus and Babinski signs. The deep tendon and corneal reflexes are usually unchanged unless an acute intoxication is superimposed on the chronic state. There are no sensory changes.

Barbiturate addicts who take no other drug usually maintain a good state of nutrition and differ in this way from alcoholics and from most narcotic drug addicts.

Pulse rate, blood pressure, respiratory rate and temperature are usually altered only slightly.

Even with very short-acting barbiturates such as seconal, cumulation of drug effects occurs if the addict takes several doses of the drug daily. The effects of the drugs vary markedly in the same individual from day to day. Doses which one day cause acute intoxication and even coma will on another day produce only mild signs of intoxication. This variation in effect, like the variation in the effects of alcohol, is partially related to food intake. The effects of the drug on the mood of the addict are also variable and appear to depend to some extent on the emotional cast of she individual on any particular day. On some days an addict will be garrulous, happy, and will enjoy himself. On another day he may be downcast, weeping, and complain about his wasted life. Like alcohol, barbiturates appear to accentuate the basic personality pattern. Extroverted individuals usually are euphoric, talkative, and humorous. Shy persons become even more withdrawn and schizoid and the mood swings become even greater in cyclothymic persons.

During chronic barbiturate intoxication the electroencephalogram reveals an increased percentage of waves with frequencies of 15 to 30 per second (beta waves). Early in addiction to barbiturates, large slow waves resembling normal sleep waves are seen but these disappear as addiction proceeds.

Persons addicted to barbiturates develop partial tolerance to the sedative and hypnotic effects of the drug.[17, 18, 20] In fact, individuals who use these drugs sleep only an hour or too more per day than they do normally. The degree of tolerance to the hypnotic effect of barbiturates is, however, not nearly so great as that which is developed against the sedative effect of the opiates. It is probable that no tolerance can be developed to the lethal effect of these drugs so that the ingestion of a very large dose of barbiturates by an individual addicted to barbiturates is just as likely to result in death as is ingestion of the same dose by a person who is not addicted to these drugs.

The Barbiturate Abstinence Syndrome

Signs of abstinence from barbiturates may appear after sudden reduction of the dosage of barbiturates which the addict is accustomed to taking as well as after complete and abrupt withdrawal of the drugs. The barbiturate abstinence syndrome never develops as long as the addict continues to ingest his usual dosage of barbiturates.

In the first 12 to 16 hours after abrupt discontinuation of medication, the patients appear to improve. Their thinking and mental status become clearer and most of the neurological signs of intoxication disappear. As the signs of intoxication decline, the patients become apprehensive and so weak that they can hardly stand. Fasciculation of various muscle groups and a coarse tremor of hands and face become evident. The deep reflexes are hyperactive and slight stimuli may cause excessive muscular responses. The patients cannot sleep, are nauseated, have abdominal cramps and may vomit frequently. They may lose as much as 5 kg. (12 lbs.) of body weight in the first 36 hours of abstinence. This weight loss is due to loss of body water by all routes and to decreased intake of fluid. Concomitantly, elevation of the nonprotein nitrogen content of the blood, hypoglycemia and hemoconcentration appear. These signs are probably attributable to dehydration. Blood pressure and pulse and respiratory rates are increased. Patients develop difficulties in making cardiovascular adjustments on standing. The pulse rate rises 40 to 80 beats per minute. The systolic blood pressure, while fluctuating widely, falls 15 to 50 mm. of mercury, while diastolic blood pressure increases. The pulse pressure is therefore narrowed. These cardiovascular phenomena, unlike those seen in normal individuals, become more marked the longer the patient stands. They are not similar to those seen in postural hypotension in which both systolic and diastolic blood pressure decrease and in which the normal increase in the pulse rate fails to occur. This disturbance of cardiovascular physiology resembles the derangement seen during or after many severe illnesses, particularly acute infectious diseases. No clinical or electrocardiographic evidence of myocardial damage is present. Anxiety, tremor and weakness continue to increase. Between the sixteenth hour and the fifth day of withdrawal, but usually about the thirtieth hour, one or more grand mal convulsions, which are indistinguishable from those occurring in idiopathic epilepsy occur. Following the convulsions, patients usually regain consciousness within a few minutes. They may be confused for an hour or two but prolonged stupor, such as follows grand mal convulsions due to idopathic epilepsy is seldom seen. General-

ly, patients have no more than three major convulsions but numerous minor episodes, which are characterized by clonic twitching without loss of consciousness, or by writhing athetoid movements of the extremities, may occur before, between, or after the major convulsions. Paroxysmal bursts of high voltage waves of slow frequency appear in the electroencephalogram. These can usually be detected before the major convulsions occur and may be present after the convulsive phase of abstinence is past. Electroencephalograms obtained during convulsions due to abstinence from barbiturates are identical with electroencephalograms obtained during convulsions due to idiopathic epilepsy. Following the convulsions, large slow stupor waves appear, but these disappear as clouding of the patient's consciousness declines. After the convulsive phase is over, an increased number of waves of frequencies of 6 to 7 per second may be observed for 7 to 14 days. Thereafter the electroencephalographic pattern is indistinguishable from that of normal people. Between or following convulsions, patients continue to exhibit anxiety and other symptoms. Unless the patient becomes psychotic, these symptoms gradually disappear and, after two or three weeks, patients have usually recovered completely.

Whether or not convulsions occur, barbiturate addicts are likely to become delirious, usually between the third and seventh days of abstinence. The onset of the psychosis is often heralded by insomnia of 24 to 48 hours' duration after which the patients begin to experience hallucinations and delusions. Both visual and auditory hallucinations occur but the former are much more prominent. The patients become disoriented in time and place but ordinarily not in person. The delirium is likely to appear and be worse at night. The hallucinations resemble those observed in delirium tremens. The patients may see little people, giants, absent relatives, animals, insects, birds, snakes, fish, etc. They may believe that imaginary persons are trying to harm them. They frequently misidentify objects, persons, and noises. They have a marked tremor and, after the psychosis appears, develop fever and even greater elevations of blood pressure and pulse and respiratory rate.

The emotional reaction to the psychosis appears to be influenced by the basic personality characteristics of the patient. Some individuals become extremely agitated, try to fight and escape from their imaginary persecutors and may become dangerously exhausted. Other patients lie quietly, watch their strange visitors and listen to imaginary music without taking any action. Some patients are so quiet that, even though they are having hallucinations, the psychosis may not be detected unless specific inquiries about symptoms are made. The psychosis may also resemble schizophrenia. The patients may show mutism, bizarre affect, have ideas of control and influence, build up a system of paranoid delusions and experience sexual hallucinations.

Even if not treated, patients will usually recover from the psychosis within two weeks of its onset. Some patients recover within three or four days and some require two or three months. Improvement generally begins with the return of the ability to sleep. After hallucinations are no longer present, patients may, for a few days, be under the delusion that their hallucinations were real.

The barbiturate abstinence syndrome varies considerably from patient to patient. Some individuals escape without experiencing more than weakness and anxiety. Others may have convulsions but not a psychosis. Some do not have convulsions but develop a delirium, and some patients may have both convulsions and a psychosis.

ILLUSTRATIVE CASE REPORTS

Case 1.—A 48-year-old male was admitted to the United States Public Health Service Hospital, Lexington, Kentucky, for the fifth time on December 26, 1946. He had used narcotic drugs since 1915 and had been withdrawn about 10 times but never remained abstinent for more than a few months following discharge from various institutions. On admission he was groggy, confused, ataxic, and dysarthria and nystagmus. He gave a history of taking 7 grains of morphine intravenously and 20 pentobarbital capsules orally each day during the past two years. Physical examination was negative except for numerous abscess scars, tattoo marks over the veins and a kyphosis in the region of the fifth and sixth dorsal spines. On previous admissions the kyphosis had been shown to be due to partial collapse of the fifth and sixth dorsal vertebrae and was interpreted to be a result of trauma rather than of tuberculosis. On the basis of psychiatric examinations done on previous admissions, he had been classed as having a character disorder (constitutional psychopathy). There was no familial history of epilepsy or insanity. Laboratory data on present and preceding admissions were not remarkable.

There was no history of syphilis and Kahn and Wassermann reactions have been repeatedly negative.

Following admission the patient was placed on pentobarbital 0.1 gram four times daily and on methadone 10 mg. four times a day. On December 28, at 9:45 a. m. approximately 36 hours after admission, the patient developed a major convulsion and fell forward striking his head on the floor. Following the convulsion, 0.5 gram of sodium amytal was administered intravenously, and the dosage of pentobarbital was elevated to 0.2 gram four times daily. X-ray of the skull was negative for evidence of fracture. On the following day the patient was confused, disoriented in time and place and had both visual and auditory hallucinations. He was transferred to the psychiatric service where positive Babinski and Kernig signs and fever of 101° F. were observed. Lumbar puncture was performed. Spinal fluid was grossly bloody but the pressure and dynamics were essentially normal. On the following day the patient continued disoriented in time and place but not in person. He was untidy, dirty, and uncooperative. He talked with nonexistent people and appeared to be having very frightening hallucinations. He was given sodium amytal 0.5 gram intramuscularly three times daily, plus 1.0 gram of sulfadiazine and 2.0 grams of sodium bicarbonate every four hours. Under this regime the psychosis gradually cleared and, three days later, the patient appeared to be completely rational. On January 3, 1947, the dosage of sodium amytal was reduced to 0.5 gram intramuscularly once daily and 0.2 gram of pentobarbital orally four times daily. On January 6, 1947, his medication was changed to 0.2 gram of pentobarbital orally at 10 a. m. and 9 p. m. On January 13, 1947, the dosage was reduced to 0.1 gram of phenobarbital at 10 a. m. and 9 p. m. On January 19, 1947, all medication was discontinued. The patient was kept on the psychiatric ward until May for further observation. On February 23, the electroencephalogram revealed the presence of abnormal slow waves which were maximal over the frontal region. Further examinations of spinal fluid were negative and a pneumoencephalogram, which was performed in March of 1947, was also negative. The patient was discharged in May, apparently completely well.

Comment.—This case represents an example of convulsions occurring following sudden reduction of addict's accustomed dosage of barbiturates. The patient incurred a severe head injury as a result of his convulsion and developed a subarachnoid hemorrage. It is difficult to decide whether the psychosis was due to the subarachnoid hemorrhage or to abstinence from barbiturates.

Case 2.—A male 50 years of age was admitted to the U. S. Public Health Service Hospital at Lexington, Kentucky, on May 16, 1949. On seven previous admissions this patient had been diagnosed as having a character disorder with marked anxiety and dependent trends. He had used narcotic drugs for 21 years and had been denarcotized about 15 times, always relapsing to the use of drugs a few months following discharge. He originally began to use morphine to sober up from alcoholic sprees and, in 1930, had one attack of delirium tremens following a long alcoholic debauch. There was no familial history of epilepsy or insanity. On previous admissions the outstanding physical findings had been a chronic osteomyelitis of the left hip and pelvis. There was no history suggestive of syphilis and the Kahn reaction had been negative repeatedly.

On the day of admission the patient gave a history of using 5 to 6 grains of morphine intravenously daily for the past two years as well as 12 to 15 0.1 gram capsules of pentobarbital daily. He was confused, groggy and had dysarthria, ataxia and nystagmus. The pupils was constricted. Deep reflexes were normal. He was emaciated and weighed only 138 pounds, although he was 73 inches tall. Blood pressure was 100/64 mm. Hg. Numerous needle marks were seen over the antecubital veins. An old scar was noted on the left hip. The left leg was somewhat shortened and motion was limited in both the left hip and knee. The X-ray of the chest, urinalysis, blood count and blood serology revealed nothing of interest.

Following admission, patient was placed on 15 mg. of morphine, 10 mg. of methadone, and 0.2 gram of pentobarbital four times daily. By the fourth day after admission his medication had been reduced to 5 mg. of methadone three times daily and 0.1 gram of pentobarbital twice daily. He became extremely nervous, apprehensive, developed a tremor, and did not sleep. This dosage level was maintained during the fifth hospital day. Again he was quite restless, nervous, and did not sleep. On the sixth hospital day he received 2.5 mg. of methadone at 6 a. m. and 0.1 gram of pentobarbital at 3 p. m. and at bedtime.

At 6:45 p. m. on the seventh hospital day, the patient began to threaten suicide. He said that he had a price on his head and that people were trying to poison him.

He was transferred to the psychiatric service where a flow bath was administered. He was given 0.1 gram of pentobarbital at bedtime. On the following day the patient was seen in consultation. He was talking to nonexistent people. When the consultant entered he begged the imaginary person's pardon, recognized the examiner, and asked him to have a chair although there were no chairs in the room. He said that on the previous night some men, who were 9 feet tall, had come and taken him from the hospital to Cincinnati where "Dr. Ted Husing" forced him to drink a gallon of strychnine. He could not understand why he did not die as a result of taking the strychnine. He left Cincinnati and went back to his home in Georgia. He appeared to be having a variety of vivid visual hallucinations. He saw small people, colored children eating peanuts, and various animals. He was disoriented in time and place but not in person. Physical examination revealed a tall, emaciated individual with limitation of motion of the left hip and knee joints. Marked fine tremor of hands, face, and tongue was present. Blood pressure in the recumbent position was 120/78. On standing, it fell to 80/74. Pulse rate recumbent was 58 and on standing, 106. The patient could stand for only a few minutes because of weakness. Otherwise, physical examination was not remarkable.

The patient was not given any further medication. Precautions were taken to prevent injury in the event of convulsions and his course was observed. He continued to have vivid visual hallucinations until the thirteenth hospital day. At this time he stated that he was still seeing things but he believed that they were imaginary and not real. By the twenty-first hospital day he appeared to be almost recovered, was no longer experiencing hallucinations, was oriented in time, place and person, and realized that his illness had been due to withdrawal of barbiturates. On the twenty-sixth hospital day he was discharged from the psychiatric service to one of the institution dormotories. He worked as a clerk in the library for the following three months and appeared to function as effectively as he had on previous admissions.

In subsequent interviews he stated that, even after he had been discharged to the dormitory, he still believed his hallucinations had been real. He thought that his sons had become addicted and had entered the same institution. He was afraid to ask anyone about this matter fearing that it might be true. He finally did inquire and, on being told that his sons were not in the institution, was greatly relieved. He remembered his hallucinations clearly and could describe them in detail two months after they had occurred. He stated that the experience was very similar to the attack of alcoholic delirium tremens which he had in 1930.

Comment.—This case also represents an example of a man who, during excessively rapid withdrawal of barbiturates, had no convulsions but did develop a delirium. The striking resemblance of the condition to alcoholic delirium tremens is manifest.

Case 3.—A male, aged 23 years, was admitted to the U. S. Veterans Administration Hospital at Lexington, Kentucky, on November 11, 1949, in a comatose state and with a heavy odor of paraldehyde on his breath.

This patient was described by his father as having been a normal boy prior to entering the U. S. Marine Corps in 1945. After being inducted into the Marines, the patient did fairly well during his preliminary training but, before being sent to the Eastern Theatre of Operations, began to feel nervous and to have attacks of dyspnea and tachycardia on mild exertion. He boarded a transport with his unit but had to be taken off in Hawaii because of anxiety and cardiovascular symptoms. He was returned to the United States without having been in combat and was discharged in 1946 with a diagnosis of anxiety neurosis. While awaiting discharge from the Marine Corps, he began to drink excessively and, following discharge, continued to use alcohol in large amounts. He was admitted to the Nichols General Hospital at Louisville, Ky., on September 2, 1947, acutely intoxicated with alcohol. After regaining sobriety, he gave a history of periodic alcoholic debauches for 18 months. Following discharge against medical advice on September 23 he began to drink again and later was hospitalized in a private sanitarium where he received a series of 10 electroconvulsive treatments. He was also introduced to paraldehyde in this sanitarium. After leaving the sanitarium, he began to use pentobarbital in large amounts sometimes taking as many as 20 pentobarbital capsules and 6 to 8 teaspoons full of paraldehyde daily. In January 1949 he attempted to discontinue pentobarbital but continued to take paraldehyde. He began to vomit, became delirious and was committed to the Nichols General Hospital. On admission, he was confused and disoriented. He denied the use of drugs. On the following day, he had a grand mal seizure and fell out of a chair striking his head on the floor. Electroencephalogram made one hour after the seizure showed predominant rhythm of 6 per second and a large number of high voltage 2 per second slow waves. This was interpreted as a post seizure

record. The following day the electroencephalogram was still slow but markedly improved. On January 14 the electroencephalogram was almost normal. Despite this, the diagnosis of idiopathic epilepsy was made as well as a diagnosis of inadequate personality and addiction to alcohol, paraldehyde, and barbiturates. The patient was discharged as improved on March 2, 1949. He immediately began to drink again and soon was taking a pint of whiskey, 20 pentobarbital capsules, and 6 teaspoons full of paraldehyde daily. He had a number of altercations with his father concerning his intoxication and finally made an abortive suicidal attempt, slashing his left wrist lightly. He was committed to the Nichols General Hospital on March 28, 1949 and, on admission, was boisterous, belligerent, uncooperative, confused, fighting and begging for paraldehyde. On the third day following admission, he had two convulsions. Following these seizures, he was confused for a time but by April 2 appeared to be completely oriented in all spheres. On April 7, 1949, he was transferred to the U. S. Veterans Hospital at Lexington, Ky., where he remained under treatment until May 25, 1949. Following discharge, he began to take pentobarbital in large amounts, using these in conjuction with beer. He was committed to the Veterans Hospital at Lexington by his father on June 24, 1949, but on this occasion no symptoms occurred although withdrawal of barbiturates and other medication was abrupt. Following discharge, he immediately began to drink again and was soon using 1.0 to 2.0 grams of pentobarbital daily as well as an undertemined amount of paraldehyde. On November 17, 1949, he became angry because there was no paraldehyde in the house and assaulted his mother, striking her in the chest with a carving fork. A physician who was called gave him a large dose of paraldehyde and he was again committed to the Veterans Hospital at Lexington.

Seven hours after admission on November 17, 1949, the patient had recovered from the paraldehyde coma but was tremulous, nervous, and begged for paraldehyde. No medication was allowed that night or the following morning. On November 18, the patient had a grand mal seizure and fell, striking his head and inflicting a laceration over his left eye. He was not given any medication although he vomited during the night and could not sleep. The following day he was confused, delirious, had hallucinations and was placed in wet packs. He became quite noisy, disturbed the ward at night and continued to be restless although 10 cc. of paraldehyde were administered. Delirium and hyperactivity continued throughout November 21 and 22. Between 4 a. m. and 9 a. m. on November 23, he had five grand mal convulsions. The patient was given 0.5 gram of sodium amytal intravenously and a consultant called from the U. S. Public Health Service Hospital. A diagnosis of abstinence from hypnotics was made and restoration of barbiturate intake followed by gradual withdrawal was recommended. The patient was placed on 0.8 gram of pentobarbital daily and the dosage was reduced gradually over the course of the next eight days. The patient was rational by the next day and no further withdrawal phenomena were observed. Following recovery, psychiatric study revealed no evidence of major psychoses. There was no familial or personal history of epilepsy. An electroencephalogram made following recovery was essentially normal. Physical, psychometric, and laboratory examinations were all essentially negative. Final diagnoses were inadequate personality, chronic alcoholism, addiction to pentobarbital and paraldehyde and convulsions and delirium due to abstinence from hypnotic drugs.

Comment: This case represents an example of mixed addiction to alcohol, barbiturates and paraldehyde occurring in an inadequate individual with anxiety and neurocirculatory asthenia. It is impossible to determine from the history whether the symptoms observed were due purely to abstinence from barbiturates or were due to abstinence from a combination of intoxicants. This case also illustrates the occurrence of barbiturate addiction in an individual who had never been addicted to opiates.

DIAGNOSIS

Barbiturate intoxication may be confused with alcoholism, bromide intoxication, and with various neurological disorders. Frequently it is very difficult to determine whether the symptoms observed are due to alcohol or to barbiturates since both drugs are commonly used together. Barbiturate intoxication should be thought of in examining any individual who has signs compatible with alcoholic intoxication but who has no odor of alcohol on his breath or a negative blood test for alcohol. Patients often attempt to conceal their addiction so that the diagnosis may be dependent upon obtaining information from relatives or friends. The laboratory tests available for the detection of barbiturates in both blood and urine are difficult to carry out and are not generally available to most

physicians. The characteristically fast electroencephalographic pattern is of great value in establishing the diagnosis. Organic nervous system disease can usually be excluded by the history, the absence of changes in the spinal fluid, the normal eyegrounds, normal skull x-rays, lack of sensory changes, and by improvement in the symptoms following a *short* period of withdrawal. During abstinence, barbiturate addiction has to be differentiated from all conditions which produce major convulsive seizures and from the major psychoses. Ordinarily, the history and the subsequent course of the illness will suffice.

It is important to remember that acute barbiturate intoxication may be superimposed upon barbiturate addiction. After a patient who is acutely poisoned by barbiturates recovers from coma, one should immediately ascertain if he has been ingesting barbiturates chronically. If this is true, signs of abstinence are likely to appear unless treatment is instituted at once.

TREATMENT

Treatment of barbiturate addiction, like that of narcotic drug addiction, can be divided into two phases: withdrawal of drugs and subsequent rehabilitative and psychotherapeutic treatment. Abrupt withdrawal of barbiturates is absolutely contraindicated. Treatment must be carried out in a hospital. Once the diagnosis has been established, the patient should be given 0.2 to 0.4 gram (3 to 6 grains) of pentobarbital or an equivalent amount of any other barbiturate orally every six hours. The dosage should be adjusted to that amount which will just maintain a mild degree of intoxication continuously. After the patient has been observed for a day or two, reduction of the dosage of barbiturates can be started. Reduction must be carried out very slowly. The dosage should not be reduced more than 0.1 gram (1.5 grains) daily at any one time. Total withdrawal period should be extended over a period of two to four weeks. Occasionally it is wise to stop the reduction and to maintain the patient for several days on whatever dosage level has been reached. If the patient becomes nervous, apprehensive and weak, or if paroxysmal slow activity appears in the electroencephalogram, reduction should be stopped until these signs have cleared. If the diagnosis is made after convulsions or psychoses have appeared, the patient should immediately be given a large dose of some barbiturate—parenterally if necessary. After the symptons have been controlled, a regular schedule of oral medication can be established and slow reduction begun as outlined above.

Patients undergoing withdrawal of barbiturates must be kept under close continuous observation. Their beds should be provided with sideboards so that if convulsions occur they will not fall to the floor. Patients should not attempt to walk, bathe or go so the bathroom unattended. Proper attention to fluid balance is essential and the diet should be light and soft throughout most of the period of withdrawal. Withdrawal of the opiate drugs can be carried on concomitantly with the withdrawal of barbiturates without increasing the danger of convulsions or psychoses appearing.

After withdrawal from barbiturates is accomplished, a long period of psychotherapeutic treatment designed to remove the fundamental cause of the addiction may be undertaken. Details of this phase of treatment are beyond the scope of this article.

PROGNOSIS

The prognosis of chronic barbiturate intoxication must always be guarded. The same tendency to relapse which is so characteristic of alcoholism and addiction to narcotics is present in addiction to barbiturates so that recurrence is very likely in a large proportion of patients.

DISCUSSION

It is obvious that barbiturates are addicting drugs. The same phenomena observed in addiction to narcotics—tolerance, emotional dependence and physical dependence are observed during the course of chronic barbiturate intoxication. In fact, addiction to barbiturates is far more serious than is morphine addiction. Addiction to morphine causes much less impairment of mental ability and emotional control and produces no motor incoordination. Furthermore, such imimpairment as does occur becomes less as tolerance to morphine develops and abstinence from morphine is much less dangerous than is abstinence from barbiturates.

The resemblance of the barbiturate abstinence syndrome to alcoholic delirium tremens is very striking. It has been commented on by many of the German

authors[17, 18, 19] and by Kalinowsky.[13] In both conditions, weakness, tremors, insomnia, convulsions and a psychosis are frequently observed. In both disorders, the delirium is preceded by insomnia and tends to begin and to be worse at night. In both abstinence from barbiturates and in alcoholic delirium tremens, the hallucinations are predominantly visual and patients usually maintain orientation in person and become disoriented in time and place. Similar clinical pictures have been described following withdrawal of chloral hydrate and paraldehyde from patients chronically intoxicated with these drugs.[12] It appears that the syndrome known as delirium tremens is not caused solely by chronic alcoholic intoxication but represents a derangement which may follow chronic intoxication with a variety of hypnotic drugs of diverse chemical structure.

SUMMARY

1. Chronic intoxication with barbiturates is a true addiction. The same phenomena observed in addiction to narcotics are also present in chronic barbiturate intoxication—tolerance, emotional dependence and physical dependence.

2. The symptoms and signs of maintained chronic barbiturate intoxication include impairment of mental ability, confusion, regression, emotional instability, nystagmus, dysarthria, adiadokokinesis, tremor, hypotonia, ataxia in gait and station and depression of the superficial abdominal reflexes.

3. A characteristic train of symptoms follows abrupt withdrawal of barbiturates from chronically intoxicated persons. The barbiturate abstinence syndrome is characterized by diminution of signs of intoxication which is followed by weakness, tremor, insomnia, great anxiety, anorexia, nausea and vomiting, rapid weight loss, elevation of pulse and respiratory rates, increase in blood pressure, difficulty in making cardiovascular adjustments on standing, convulsions of grand mal type and the development of a psychosis. The delirium observed in the withdrawal of barbiturates resembles alcoholic delirium tremens and is characterized by anxiety, agitation, fever, insomnia, confusion, disorientation chiefly in place and time but not in person, delusions, and auditory and visual hallucinations.

4. Recovery from chronic barbiturate intoxication and the barbiturate abstinence syndrome is complete so far as can be determined by clinical means and by psychometric testing.

5. Abrupt withdrawal of barbiturates from addicted persons is contra-indicated. The only method of withdrawal which is known to be safe involves careful, slow reduction of the dosage of barbiturates.

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Addiction to Analgesics and Barbiturates [1]

(Harris Isbell, M. D. and H. F. Fraser, M. D.)

I. GENERAL

This review will be concerned with articles which have appeared in the literature since 1940 concerning addiction to analgesic drugs. Except in certain instances, it will not be necessary to refer to articles which appeared before 1940, since papers prior to that time were adequately covered in the monumental review of Eddy (32) and the survey by Smith (109). Since addiction to barbiturates has never been adequately treated in a general article, we will attempt to cover all the literature available to us on this subject. Addiction to marihuana, cocaine, amphetamine, alcohol, and hypnotics other than the barbiturates will not be considered.

Definition of drug addiction

Pharmacologists are accustomed to thinking of addiction as being synonymous with dependence—either physical or emotional (32). This point of view is reflected in the formulation of Tatum and Seevers (113) who defined addiction as a condition developed through the effects of repeated actions of a drug such that its use becomes necessary and cessation of the drug causes mental or physical disturbances. However satisfactory this definition may be to pharmacologists, it is not acceptable to persons who actually have to handle addicts—physicians, law-enforcement officers, and social workers. If dependence were the only important factor in addiction, the solution of the problem would be very simple. One would simply permit addicts to have drugs so that their dependence would be continuously satisfied. This is the conclusion reached by Lindesmith (80) who believes that dependence and its recognition by the person using the drug constitute the essential features of addiction. Actually we are concerned about addiction not because individuals who use drugs become dependent but because the effects of the drug are harmful both to the individual and to society. The harm which abuse of various drugs may cause arises in a number of ways. It may be due to a decrease in the social productivity of the addicts, as is the case in morphine addiction, to the precipitation of undesirable and dangerous behavior such as occurs with abuse of cocaine and marihuana, or to the mental confusion and impairment of motor function during intoxication with barbiturates. Dependence is important chiefly in that it causes an addiction to be continuous rather than periodic.

Any definition which makes dependence an essential feature will also not include intoxications with such substances as cocaine, marihuana, and amphetamine, because dependence on these substances is no more marked than is dependence on tobacco and coffee and yet, in some ways, intoxication with cocaine or marihuana is more harmful than is addiction to morphine. Furthermore, definitions which exclude cocaine and marihuana from the list of addicting drugs would cause endless

[1] From the National Institute of Mental Health of the National Institutes of Health, U. S. Public Health Service. (Research Division, U. S. Public Health Service Hospital Lexington, Kentucky.)

confusion because, in common parlance and legally, both drugs are regarded as addicting.

Any definition which makes dependence the central feature is also undesirable because of the public reaction to the term "addiction." Laymen and physicians believe that the use of an "addicting" drug is an extremely bad thing. Contrariwise, it is believed that abuse of a "nonaddicting" drug is not nearly so reprehensible and is not a matter of public concern. No better example can be given of the potential damage which such thinking may cause than the situation with respect to barbiturates. It has commonly been held that dependence does not occur after prolonged use of barbiturates and, therefore, measures designed to control the promiscuous use of hypnotics have been half-heartedly enforced and generally ineffective. Actually, even if no dependence occurred, chronic intoxication with barbiturates, in some ways, is far more undesirable and dangerous than addiction to morphine (61, 163).

Emphasis on dependence also fosters the idea that withdrawal of the drug is all that is necessary in treating addiction. This may account in part for the large number of irrational withdrawal schemes which have been advocated and which have clouded the literature on addiction.

In recent years, a number of psychiatrically oriented workers (54, 61, 98, 99, 117) have formulated definitions which make loss of self-control with respect to use of a drug and harm to the individual, society, or both the essential features of the definition of "addiction." The chief difficulties with definitions of this sort are quantitative ones. How harmful must a drug intoxication be before it is regarded as an addiction? When has an individual lost his self-control? Despite these difficulties, this kind of definition seems to the authors to be more satisfactory than definitions based entirely on dependence. Ordinarily it is not difficult to decide whether use of a particular substance is sufficiently harmful to be classed as an addiction. Thus coffee, tea, and tobacco cause so little harm that they are not regarded as addicting drugs by scientists or by the majority of the lay public, whereas the opiates, the hypnotics, alcohol, and cocaine cause such obvious damage when habitually taken that they are easily classed as addicting drugs.

The Drug Addiction Committee of the National Research Council has recently considered the definition of drug addiction and, after long discussion, arrived at the following formulation, which represents an attempt at compromise between the proponents of the definition based on dependence and the proponents of the definition based on harm to the individual or society:

"Addiction is a state of periodic or chronic intoxication, detrimental to the individual and to society, produced by the repeated administration of a drug. Its characteristics are a compulsion to continue taking the drug and to increase the dose with the development of psychic and, sometimes, physical dependence on the drug's effects. Finally, the development of means to continue the administration of the drug becomes an important motive in the addict's existence."

The word "periodic" was inserted in the first sentence because cocaine and marihuana are generally used as "spree" drugs by North American addicts and are not taken continuously. One should note that physical dependence is not an essential part of this definition. Although "psychic" dependence is considered a necessary feature, it actually adds nothing to the definition. Psychic dependence is, of course, a striking and important feature of any addiction but it does not represent a specific characteristic of addiction, since strong psychic dependence can be developed on lactose, lemon juice, and other innocuous substances. The authors prefer to define addiction as a state of periodic or chronic intoxication in which an individual compulsively abuses a drug to such an extent that the individual or society is harmed.

Etiology of addiction

Psychiatrists believe that the most important factor which predisposes to addiction is a personality defect. In other words, drug addiction is not a separate disease but usually represents a symptom of a number of psychiatric disorders. This point of view is reflected in the writings of Kolb (70–72), Felix (34–36), Pescor (84–87), Vogel *et al.* (117), Reichard (98, 99) and Wilker (121, 125). The majority of individuals who become addicted to any drug are usually suffering from various types of psychoneuroses or have character disorders (constitutional psychopaths). Under modern conditions, individuals with normal personalities practically never becomes addicted (84, 87, 117). Major psychoses play no role in the genesis of addiction (34, 36, 84, 87, 89, 90).

Reichard (99) has emphasized the importance of "tension" (anxiety) arising from a variety of somatic disorders or situational problems as an etiologic factor

in addiction. Whether addiction will occur in a tense individual who has been exposed to drugs is, according to Reichard, conditioned by the individual's ability to endure discomfort and by the strength, character and orientation of his internal controls of behavior. Both Straus (110) and Rado (95) emphasized the significance of tense depressions in the etiology of drug addiction. Simmel (108) regarded intense oral and narcissistic cravings as being psychodynamically important in opiate addiction. Wikler (125) points out that these are not the only dynamic mechanisms underlying drug addiction but that the drug may also be used to express hostility or to acquire infantile dependent relationships. The depression of sexual drives by morphine may also be of importance.

The concept that addiction is based on a personality defect has been challenged by Lindesmith (80) who argues that proponents of this theory have not made use of control groups, the psychiatric disorders which are supposed to underlie drug addiction are ill-defined and, since psychiatric examinations are usually carried out after an individual has been addicted, there is no real proof that addicts were psychiatrically abnormal prior to addiction. Furthermore, Lindesmith points out that all writers admit that psychiatrically "normal" individuals may become addicted. Lindesmith seems not to realize that the authors whom he criticizes have not stated that personality difficulties are the actual "cause" of addiction but merely that such psychiatric disorders predispose to addiction. Although one must admit the partial justice of Lindesmith's objections, he does not furnish us with any satisfactory alternative hypothesis, especially since he also minimizes the pleasurable effects of the addicting drugs. After reading Lindesmith one has the impression that addiction has no cause. It should also be pointed out that it would be almost impossible to find a satisfactory group of controls since such a group would have to be matched with addicts with respect to age, sex, race, religion, economic circumstances, culture, degree of drug exposure, and degree of internal controls of behavior. The writers have yet to see an addict who could not easily be shown to have been psychiatrically abnormal prior to addiction provided an adequate psychiatric examination had been made. This applies to so-called "medical" addicts as well as to "nonmedical" addicts.

An individual who has personality traits which predispose to addiction will not become addicted unless he is in some way introduced to an addicting drug. The drug must, moreover, produce effects which the addicts regard, or can learn to regard, as pleasurable. Kolb (76) has written concerning addicting drugs and their effects as follows:

"In a broad sense any drug which is regularly taken to produce unusual mental reactions rather than for a specific medical need is an addicting drug. There are many such drugs—some stimulating, some depressing—and all harmful when used for nonmedical purposes. The unusual reactions produced by these drugs are in the main pleasurable. By increasing physical and mental perception, a stimulating drug brings the addict into more intimate contact with the environment and gives him an increased sense of power. By decreasing physical perception and the acuity of certain mental processes, the depressing drugs enable the addict to escape from innate difficulties and disagreeable features of situations of the environment. The power to stimulate is not alone sufficient to make a drug attractive to addicts. There must be some distortion of function or sensation.

The same personality factors probably underlie various addictions; therefore, addiction to one drug predisposes to addiction to another. This cocaine and marihuana users are very likely to change to opiates. Alcoholics gravitate to the use of barbiturates and/or morphine.

In addition to the pleasurable effects of the drugs, the manner in which the potential addict makes contact with the drug is of great importance. Contact with the drug as a result of deliberate experimentation to experience the pleasurable effects is a far more potent cause of addiction (64, 87, 117) than is contact as a result of administration for legitimate medical purposes. Since both the drug and method of contact are important in determining whether or not addiction occurs, it is not surprising that the majority of individuals with personality traits similar to those of addicts do not become addicted. It simply means that such addiction-prone individuals have not made contact with the drugs under proper circumstances.

The tendency to relapse is one of the most striking characteristics of addiction. Relapse, according to Kolb (71) and many others, is due to the same personality factors which predispose an individual to addiction. The personality factors are strongly reinforced (71, 76) by the conditioning of the addict to use the drug as the answer to all of life's stresses.

Lindesmith (80) made such conditioning of the addict one of the main themes of his book on addiction and believes that, once established, the conditioning

cannot be broken. Lindesmith's view is far too gloomy, however, since the authors know many former addicts who have been abstinent for years. Since, during addiction to morphine, there is a biological need for the drug which may be likened to the need for water or food to relieve hunger or thirst, Wikler (125) states that the gratification of the need for morphine, by analogy with other biologically determined cravings, is intensely pleasurable—perhaps the most pleasurable thing about addiction. The desire to experience the relief of the craving may be an important factor not only in maintaining addiction but also in relapse.

II. ADDICTION TO ANALGESICS

Methods for determining addiction liability.—These may be divided into methods which utilize lower animals and methods which involve the use of human subjects.

In a discussion of the role of animal experimentation in studying the addiction liability of analgesic drugs, Seevers (107) pointed out that only tolerance and physical dependence can be studied in animals and that emotional dependence, or habituation, must be determined in man. According to Seevers, the monkey is the best animal to use for addiction liability experiments since signs of abstinence in monkeys are very similar to those in man; moreover, the results which have been obtained with monkeys have more closely paralleled the addiction liabilities of various drugs for man than have the results obtained with any other animal species. The study of Wikler and Frank (127) on the effects of morphine and methadone addiction on the hindlimb reflexes of chronic spinal dogs suggests the use of such preparations in determining physical dependence liability of analgesic drugs, although, as Wikler points out, such preparations may be sensitized and may give false positive results. However, the objectivity of the method of Wikler and Frank is a very strong point in favor of the technic.

Isbell (58) has reviewed the methods available for determining addiction liability in human subjects. He points out that the addiction liability of the analgesic drugs has to be considered from two points of view: 1) What is the danger of addiction under conditions of legitimate medical use? 2) What is the danger that persons with susceptible personalities will illegally abuse the drug and so become addicted? The first question is rather unimportant because the danger of addiction under conditions of medical usage is very small as long as physicians are careful in the use of analgesic drugs. The number of persons who become addicted as a result of medical contact accounts for less than five per cent of the total number of addicts (84, 87). Determination of addiction liability under conditions of medical use is usually carried out by administration of the compound under study to people with chronic painful diseases who require pain relief for long periods of time. The drug is ordinarily administered in the least dose and at the longest interval sufficient to relief pain. The results obtained from this type of study are always extremely difficult to interpret because of the low dosage of the compound under study, the low grade of dependence produced, the impaired physiology of chronically ill individuals and confusion of withdrawal signs with signs of the disease. Generally speaking, the difficulties of such work are so great that the results have been unreliable, especially when carried out by individuals who were not familiar with the manifestations of abstinence. Practically every new analgesic drug which has been introduced into medical practice—heroin, dilaudid, meperidine, methadone—has been judged to be non-addicting on the basis of results obtained with this type of experiement, yet further experience showed that all these compounds were addicting.

Tests of addiction liability under conditions of abuse have been much more reliable than either animal tests or tests involving clinical administration to patients requiring relief of pain. Such experiments must, of necessity, be carried out on prisoners who are, or have been, addicted to morphine. The methods used in conducting addiction liability tests in such individuals are essentially those developed by Himmelsbach (45, 56, 77). Four methods are available: administration of single doses for the detection of euphoria; determination of the effect of single doses on the intensity of abstinence from morphine; substitution of the new drug for morphine in cases strongly dependent on morphine; and direct addiction to the new drug. The first method permits one to form some judgment with respect to whether susceptible individuals will use the drug in order to experience the pleasurable effects. The second and third are based on the hypothesis that drugs which relieve or prevent the appearance of signs of physical dependence on morphine will produce dependence of a similar kind. The direct addiction technic is the best, since it gives information concerning development of tolerance, emotional and physical dependence; but it is the most laborious

and time consuming of all the available technics. In conducting addiction liability tests, absolute control of the patient and his environment is essential (77). Evaluation of abstinence signs and other phenomena of addiction must be made by persons who are especially trained for such work.

In determining the degree of abstinence from the various drugs the point-score system developed by Himmelsbach (56, 77) has been invaluable. The point-score system makes use only of objective signs of abstinence, some of which are measurable (temperature, blood pressure, body weight, respiratory rate, and caloric intake) and some of which are ordinarily nonmeasurable (yawning, lacrimation, rhinorrhea, perspiration, gooseflesh, mydriases, tremor, restlessness, and vomiting). Under close environmental control, observations for these signs of abstinence are made by trained personnel at regular intervals following abrupt and complete withdrawal of the drug under test. Arbitrary numerical values are assigned to the various signs of abstinence. The total of these numerical values represents the intensity of abstinence at any given time and can be compared with the intensity of abstinence from morphine by reference to Himmelsbach's control curve.

Objections have been raised to the use of morphine addicts in conducting addiction liability tests on the ground that such subjects are peculiarly liable to the development of physical dependence on any new drug and, therefore, the results obtained with former addicts are not applicable to the general population. It has never been definitely proved that individuals who have once been addicted to morphine develop physical dependence more readily than do persons who have never been addicted. Such a situation, if it exists, is really an advantage and not a disadvantage because it permits one to obtain definite useful information in a relatively short period of time. Furthermore, the method has always been reliable. Every drug which has been judged to be addicting on the basis of results obtained with former morphine addicts has finally been proved to be addicting under non-experimental conditions. From a practical point of view, morphine addicts are the only subjects who can ethically be used for addiction liability testing so that, regardless of one's feelings in the matter, the results of tests using morphine addicts have to be accepted until disproved by many years of clinical experience.

Addiction liabilities of various analgesic drugs of the morphine series.—Using the substitution technic, Himmelsbach (45) found that dihydromorphine, alpha-isomorphine, dihydro-alpha-isomorphine, dihydromophinone, dihydrodesoxy morphine-D, codeine, dihydrocodeine, isocodeine, dihydroisocodeine, and dihydrodesoxycodeine-D would all support physical dependence in patients strongly addicted to morphine, although satisfaction of physical dependence with dihydroisocodeine was not prompt or complete. Definite signs of abstinence were seen following withdrawal of all drugs after substitution for morphine. Himmelsbach concluded that, so far as the ability of these drugs to support physical dependence was concerned, methylation of the phenolic hydroxyl group of morphine reduced the potency of the compound and prolonged its action. Replacement of the alcoholic hydroxyl by hydrogen or oxygen increased potency and shortened the action. Spatial shift of the alcoholic hydroxyl resulted in irregular effects and saturation of the bond between positions 7 and 8 tended to increase both potency and duration of action.

Fraser and Isbell (39) have studied the addiction liability of 6-methyldihydromorphine, morphinan (3-hydroxy-N-methylmorphinan) and dihydrocodeinone. In a single dose, both 6-methyldihydromorphine and dihydrocodeinone reduced signs of abstinence from morphine. Morphinan was not tested in this respect. All the drugs produced euphoria in former morphine addicts. All three compounds were administered to former morphine addicts for 38 days. Signs of abstinence, which were as intense as those that would have been expected after addiction to equivalent doses of morphine for a comparable period of time, were observed after withdrawal of morphinan. Intensity of abstinence after withdrawal of both dihydrocodeinone and 6-methyldihydromorphine was much milder than would have been expected following withdrawal of morphine after administration of comparable doses for comparable times. The addiction liability of dihydrocodeinone appears to lie between that of codeine and morphine and is approximately of the order which would have been expected from the analgesic potency of the compound. However, 6-methyldihydromorphine is as potent as morphine in inducing analgesia which, in mice, persists for twice as long as that following morphine (33). The results suggest that some separation of physical dependence liability and analgesic potency has been achieved in 6-methyldihy-

dromorphine. Longer direct addiction experiments will be necessary in order to establish this point definitely.

Isbell (66) obtained very interesting results with N-allylnormorphine. This drug has been shown to be an effective antagonist to the analgesic and respiratory depressant actions of morphine in experimental animals (42, 115). In a single dose, it increased the intensity of abstinence from morphine and prevented relief of abstinence symptoms by morphine. Following administration of 80 to 120 mgm. of N-allylnormorphine hydrobromide daily to former morphine addicts for 30 days, no signs of abstinence were detected following abrupt withdrawal. The addicts did not like the effect of the drug and refused increases in dosage which were offered them. It is not known whether N-allylnormorphine will have analgesic properties under clinical conditions in man. The results obtained with experimental animals have varied. Unna (115) found that the drug was not an effective analgesic in rats, whereas Hart and McCawley (42) found that the drug did elevate pain thresholds of rats. Since N-allylnormorphine does elevate the pain thresholds as measured by the Hardy-Wolff technic in humans (66), an investigation of relief of clinical pain by this compound would be of interest.

Meperidine series.—Himmelsbach (49) found that meperidine partially suppressed signs of abstinence when substituted for morphine. Following withdrawal of meperidine after administration of large doses to former morphine addicts for 10 weeks, signs of abstinence appeared which were somewhat more severe than those observed after withdrawal of codeine. In further experiments, Himmelsbach (50) observed clinically insignificant abstinence syndromes after administration of 75 mgm. of meperidine three times daily for three months, while clinically significant syndromes occurred after administration of 75 mgm. four times daily for two months followed by 75 mgm. eight times daily for two weeks. Himmelsbach felt that previous addiction to meperidine might facilitate the development of physical dependence on meperidine. After administration of 100 mgm. eight times daily for two weeks to patients previously addicted to meperidine, stronger grades of abstinence were observed than after administration of the same amounts of meperidine to subjects never before addicted to that drug. This result was, however, not obtained in all patients who were readdicted to meperidine. Himmelsbach concluded that meperidine possessed addiction liability which was of a lower order than that of morphine.

Whether meperidine will produce physical dependence under ordinary conditions of medical use is a matter which has caused considerable controversy. Batterman (17–20) has maintained that no cases of addiction have occurred following medical use of the drug and believes that all persons who have become addicted to meperidine (in the sense of becoming physically dependent) were formerly addicted to morphine. This point of view was reflected in the popular article by De Kruif (79) which appeared in the Reader's Digest. A large number of clinical reports (13, 27, 29, 41, 82, 93, 100) have appeared which describe cases of habituation or addiction to meperidine. The most significant article is that of Polonio (93) who collected 17 cases from the literature and reported on an additional 15 cases which he had personally observed. Polonio emphasizes the danger of meperidine when taken in amounts which will satisfy addicts. Five deaths occurred among the 32 cases which Polonio summarized. Wieder (119) described 3 cases of addiction to meperidine, two of which were undoubtedly cases of primary addiction. One of these cases definitely followed medical use of meperidine. In the experience of the U. S. Public Health Service Hospital at Lexington, Kentucky, addiction to meperidine is much more common than is addiction to codeine (58, 117). Definite signs of abstinence have been observed following withdrawal of meperidine from "primary addicts" at Lexington even though the withdrawals were conducted gradually and not abruptly. Addiction to meperidine is quite common among physicians, perhaps because so many doctors believe the drug to be nonaddicting.

Andrews (6) found that tolerance to the pain threshold elevating action of meperidine developed rapidly during the course of experimental addiction. This tolerance persisted for at least 30 days after meperidine was withdrawn. Meperidine reduced the psychogalvanic response to thermal stimulation and no tolerance developed to this action during addiction. Tremors, toxic psychoses and convulsions (7) were observed during experimental addiction to meperidine. These symptoms were associated with the appearance of large slow waves in the electroencephalogram. Andrews concluded that, in quantities sufficient to satisfy the desires of addicts, meperidine was a drug which had dangerous effects on the nervous system. Andrews' work has been borne out by the deaths reported by

Polonio (93) and by the condition of patients admitted to the U. S. Public Health Service Hospital at Lexington, Kentucky.

The following conclusions appear to be warranted by the available evidence: meperidine is an addicting drug which will produce physical dependence in individuals who have never been addicted to morphine, as well as in former morphine addicts. Although physical dependence on meperidine is milder than dependence on morphine, the toxic effects of the drug are so pronounced that addiction to this compound is even more undesirable than is addiction to morphine.

Isbell (60) has studied the addiction liability of five derivatives of meperidine. The drugs tested were bemidone (ethyl-1-methyl-4-[3-hydroxyphenyl]-piperidine-4-carboxylate hydrochloride), keto-bemidone (4-[3-hydroxyphenyl]-1-methyl-4 piperidyl ethyl ketone hydrochloride), Nu-1196 (*dl*-alpha-1, 3-dimethyl-4-phenyl-4-proprionoxy piperidine hydrochloride), Nu-1779 (*dl*-beta-1, 3-dimethyl-4-phenyl-4-proprionoxy piperidine hydrochloride), and Nu-1932 (1-methyl-3-ethyl-4-phenyl-4-proprionoxy piperidine hydrochloride). In sufficient dose, all these drugs induced euphoria in former morphine addicts and all relieved abstinence from morphine. The comparative potency in inducing both effects increased in the following order: bemidone, Nu-1196, Nu-1779, Nu-1932 and keto-bemidone. Keto-bemidone appeared to be at least as effective as morphine in inducing euphoria and in relieving abstinence from morphine. Following experimental addiction of former morphine addicts to keto-bemidone for 59 days, signs of very intense abstinence appeared after withdrawal. All five drugs had addiction liability. Keto-bemidone was outstanding and appeared to be as addictive as heroin.

Methadone series.—Scott and Chen (105) found that tolerance did not develop to the pain threshold elevating action of methadone following administration of 2 mgm./kgm. daily to dogs for 28 days. In further experiments, Scott *et al.* (106) found that tolerance to the analgesic action developed rapidly in dogs which received 5 to 20 mgm./kgm. of methadone intraperitoneally twice daily for 14 to 32 days. Tolerance to other effects of methadone was also noticed in these experiments. Following withdrawal of methadone from these dogs and from an additional group of dogs which received methadone subcutaneously three times daily in amounts increasing to 5 mgm./kgm., tachycardia and fever appeared. Wikler and Frank (127) observed the development of tolerance to the effects on the hindlimb reflex of chronic spinal dogs that received 1 to 5 mgm./kgm. of methadone four times daily for 37 to 63 days as well as tolerance to other actions. Following withdrawal of methadone from these chronic spinal dogs and from intact dogs (62), vomiting, mydriasis, shivering, tachycardia, hyperpnea, fever and weight loss were observed. Changes in the reflexes of the paralyzed limbs of chronic spinal dogs following withdrawal of methadone were very similar to changes in the reflexes of addicted chronic spinal dogs following wishdrawal of morphine. Abstinence signs came on more rapidly after withdrawal of methadone than after withdrawal of morphine, were more severe, and subsided more quickly. Woods, Wyngaarden and Seevers (132) observed that 4 monkeys that received 5 to 13 mgm./kgm. of methadone for 75 to 96 days became more sensitive to the toxic effects of methadone rather than developing tolerance. Addiction of monkeys to methadone did not confer cross-tolerance to morphine. Following withdrawal of methadone, no abstinence signs were noticed in these monkeys whereas definite abstinence phenomena were observed in control monkeys which received morphine. Cochin, Gruhzit, Woods and Seevers (28) administered methadone to monkeys three times daily and again observed no definite symptoms upon withdrawal. It appears that striking differences exist between the dog and the monkey with respect to the development of tolerance and physical dependence on methadone.

Isbell and his collaborators (58, 59, 62, 64, 65) found that, in sufficient dose, methadone was as potent as morphine in inducing euphoria in former morphine addicts. The euphoric effects of methadone were longer lasting than was the euphoria induced by morphine. When methadone was injected intravenously, addicts could not distinguish its effects from those of heroin or dilaudid. Methadone was just as effective as morphine in relieving symptoms of withdrawal from morphine. One mgm. of methadone could be substituted for each four mgm. of the accustomed dose of morphine in individuals strongly dependent on morphine without signs of abstinence appearing. After substitution of methadone for 10 to 14 days, abrupt withdrawal of methadone was followed by a definite but low-grade type of abstinence which was characterized by slow onset, relatively few autonomic signs, great weakness, and slow recovery. Fifteen former morphine addicts were experimentally addicted to methadone in doses ranging up to 400

mgm. daily for 28 to 186 days. Definite tolerance to the pain threshold elevating, sedative, electroencephalographic, nauseant and miotic effects were observed in these patients. Probably tolerance to the circulatory and respiratory depressant effects developed as well. Following withdrawal of methadone from these subjects, signs of abstinence appeared which were identical with those seen after withdrawal of methadone following substitution for morphine. The slow recovery from abstinence from methadone was more unpleasant to some of the subjects than was abstinence from morphine. Most of the patients experimentally addicted to methadone came to prefer it to all other drugs. Although abstinence from methadone is comparatively mild, the euphoric effects of methadone are so marked and emotional dependence so strong that the total addiction liability of methadone is probably almost as great as that of morphine (58, 117). The drug is also more toxic than morphine and, in the amounts used by addicts, would cause even greater physical degeneration and social loss. No clear-cut evidence of physical dependence has been observed following the administration of the drug to non-addicts who require pain relief for considerable periods of time (62, 68, 69). Methadone, however, immediately became very popular with morphine addicts (14) and therefore spread of addiction to this substance will probably be rapid.

Other methadone drugs.—Isbell and Eisenman (63) found that *l*-methadone accounted for all the addiction liability of racemic methadone as well as for all its analgesic effect. *d*-Methadone was inactive in both respects. Isomethadone, though less potent than methadone, induced euphoria in former morphine addicts and relieved abstinence from morphine. Following withdrawal of isomethadone from 10 former morphine addicts who had received dosages ranging from 270 to 360 mgm. daily for 42 to 59 days, signs of abstinence appeared which were considerably more intense than signs of abstinence from methadone but less intense than signs of abstinence from morphine. Following substitution of 1 mgm. of isomethadone for each 1.33 mgm. of the stabilization dose of morphine, mild signs of abstinence appeared in 5 morphine addicts who had been stabilized on 480 mgm. of morphine daily. Following withdrawal of isomethadone, an abstinence syndrome similar to that seen after direct addiction to isomethadone was observed. Methadol (6-dimethylamino-4-4-diphenyl-heptanol-3) did not induce euphoria in former morphine addicts and did not relieve abstinence from morphine. The drug is also inactive as an analgesic. Racemic acetylmethadol (6-dimethylamino-4-4-diphenyl-3-acetyl-heptanol) induced striking euphoria in former morphine addicts and was very effective in relieving abstinence from morphine (40). Heptazone (6-morpholino-4-4-diphenyl-heptanone-3 hydrochloride) was relatively inactive in inducing euphoria in former morphine addicts. Doses of 90 to 100 mgm. subcutaneously were required to produce definite results (40). Such effects as were observed were also very transient and lasted only an hour. In doses of 10 mgm. intravenously, heptazone produced marked euphoria and sharp rises in the thermal radiation pain threshold. Both effects were transient and disappeared within 45 minutes to one hour. Doses of 100 mgm. of heptazone subcutaneously had only minor effects on symptoms of abstinence from morphine. Twenty mgm. of heptazone intravenously produced striking relief from abstinence which persisted for only an hour. Intravenous injection of 20 to 30 mgm. of heptazone caused precipitous drops in blood pressure, marked respiratory depression and coma in non-tolerant individuals. Only minor signs of abstinence were observed after withdrawl of heptazone following administration of doses ranging up to 260 mgm. daily for 40 days to former morphine addicts. The addiction liability of heptazone is quite low; but the drug is a relatively ineffective and short acting analgesic, and it is potentially so dangerous, if inadvertently injected into the blood stream, that it probably has no clinical value.

Electroencephalograms in addiction.—Andrews (5) found that, during maintained addiction, the electroencephalograms of a series of 50 patients who were actively addicted to morphine were characterized by an abnormally high percentage of waves with frequencies of approximately 10 per second (alpha waves). In some patients who were receiving very large amounts of morphine, large slow waves with frequencies of less than six per second (delta) were observed. In some cases, the high alpha percentage was maintained during and following withdrawal and was felt by Andrews to be an irreversible change. In a further study of 2 men who were observed through an experimental cycle of morphine addiction, Andrews (8) found that morphine addiction increased the alpha percentage in an individual with a low alpha index prior to addiction and induced slow waves in another individual with a high alpha index before addiction. In other words, the effect of addiction was to slow the electroencephalogram. Andrews

postulated that morphine produced this effect by reducing the cortical excitatory state but not be decreasing the number of exteroceptive stimuli received by the brain, since measurements of auditory thresholds showed no significant changes throughout the cycle of addiction. In unpublished work, Andrews (11) observed similar changes in the electroencephalograms of morphine addicts who had been stabilized on eight different morphine derivatives. During addiction to codeine, Andrews (4) noted a high occipital alpha percentage which was maintained during withdrawal despite the mental unrest associated with abstinence. Isbell and his collaborators (62, 64) observed progressive shifts of the electroencephalographic spectrum to the slow side during experimental addiction to methadone. The alpha percentage decreased, alpha frequency was slowed, delta activity appeared and later dominated the record. As addiction to methadone progressed, definite evidence of partial tolerance was shown by a shift of the frequency spectrum toward the pre-addiction pattern. Following withdrawal of methadone, the slow electroencephalographic pattern persisted for two days after which the pre-addiction state was gradually regained. During meperidine addiction, Andrews (7) noted the appearance of large slow waves in the electroencephalogram. Altschul and Wikler (3) reported a marked shift of the electrocephalogram to the slow side of the frequency spectrum during addiction to keto-bemidone. Large slow waves (delta) and subsequent development of tolerance to this effect were observed during addiction to this drug. One individual exhibited paroxysmal slow spike and dome activity while receiving 480 mgm. of keto-bemidone daily. Twelve hours after abrupt withdrawal of keto-bemidone, the percentage of delta waves was again increased and in one subject several bursts of high frequency waves of frequencies of 18 cycles per second were observed.

Clinical picture of addiction to morphine.—This subject has been summarized by Himmelsbach in two excellent papers (47, 48) which should be carefully studied by any individual who has to manage addicts or evaluate the addiction liability of new drugs. Andrews and Himmelsbach (12) found that the intensity of the morphine abstinence syndrome was related to the dosage of morphine required to prevent signs of abstinence from appearing (the stabilization dose). These investigators found that if the stabilization dose were known, the intensity of abstinence in a given individual could, within limits, be predicted mathematically. From the shape of the curve relating intensity of abstinence to stabilization dosage, these authors predicted that the maximum intensity of abstinence which can possibly be attained would be achieved with doses of about 500 mgm. of morphine daily. This prediction is in accord with clinical experience. Pfeffer (89) found that psychoses were seldom precipitated by withdrawal of morphine.

Pathology of morphine addiction.—There is still no evidence that prolonged addiction to morphine produces any pathological changes which cannot be attributed to malnutrition, neglect of personal hydiene, and infections resulting from unsterile injections. The frequency of bacterial endocarditis and of malaria among morphine addicts has been commented on by a number of writers. Swain (111) found histological alterations in the brains of 3 individuals who presumably died from morphine addiction. The changes described included acute and chronic neuronal alterations, destruction of neurons, and irregular perivascular demyelinization. Two of Swain's cases, however, were definitely cases of acute morphine poisoning and the changes reported may have been due to anoxia. The third patient was a woman who was treated with insulin during withdrawal of morphine and her death and the pathological changes observed could very well have been due to severe hypoglycemia.

Physiology of physical dependence.—Wikler and his collaborators (122–127) have carried out an important group of experiments on the neurophysiology of physical dependence in addiction, using chronic spinal dogs, chronic decorticated dogs, and experimentally "neurotic" dogs and cats. In the non-tolerant and non-addicted chronic spinal dog, morphine depressed the flexor, crossed extensor, "mark time" and Phillipson's reflexes. The ipsilateral extensor thrust reflex was enhanced by morphine and the knee-jerks were little affected. These effects of morphine on the patellar and flexor reflexes of chronic spinal dogs fitted in well with the effects of morphine on two-neuron and multineuron reflexes as recorded by electrophysiological technics in cats (122). When chronic spinal dogs were experimentally addicted to morphine, tolerance developed to the depressant effects of morphine on the hindlimb reflexes as well as to the general sedative actions of the drug, the temperature lowering effects, etc. Tolerance to the stimulant effects of morphine on the ipsilateral extensor thrust reflex did not occur. Following withdrawal of morphine, in addition to signs of abstinence above the level of the cord section (rhinorrhea, salivation, mydriases, fever,

hyperpnea, tremors, restlessness and weight loss), marked alterations in the hindlimb reflexes of the chronic spinal dogs were observed. The flexor reflex, the crossed extensor reflex, the "mark time" and Phillipson's reflexes were markedly exaggerated whereas the ipsilateral extensor thrust was greatly reduced. These changes are exactly opposite to the acute changes induced by morphine in nontolerant dogs. Similar changes were seen after addiction of chronic spinal dogs to methadone. Eserine in doses of 0.25 mgm./kgm. induced alterations in the hindlimb reflexes which were very similar to those noticed in withdrawal of morphine (125, 127). The changes following eserine could be prevented or abolished by injections of morphine. In experimentally addicted chronic decorticated dogs, tolerance developed to the sedative and pain threshold elevating actions of morphine. It was noteworthy that conditional salivation did not occur in the chronic decorticated animals. Increasing motor restlessness and irritability were noted in these decorticated dogs as tolerance increased. Following abrupt withdrawal of morphine from decorticated dogs, a sterotyped abstinence syndrome ensued which was abolished by morphine. Wikler's results show that physical dependence on morphine is due to changes in the organism which have no symbolic significance for the animal. This is another way of stating that the abstinence syndrome represents a physiological rather than a "psychic" derangement. The results also show that the changes responsible for the abstinence syndrome involve the spinal cord and probably other parts of the central nervous system.

The effects of morphine on conditional responses depended upon the stability of the reflex, the effects the drug had on the unconditional response, and on the general adaptive pattern of the individual dog (123, 125). More recently learned and unstable conditional responses were impaired by morphine whereas older and more stable conditional responses were depressed to a lesser degree or not impaired at all. If the dose of morphine was large enough to impair the unconditional response, the conditional response was also impaired. Morphine tended to accentuate the general adaptive pattern which was most predictable for any given animal. Wikler suggested that, in man, morphine may abolish more recently learned reaction patterns and release more firmly established reaction patterns regardless of whether the firmly established patterns are normal or neurotic. Thus in highly narcissistic individuals, morphine is apt to release fantasies of omnipotence and grandiosity with a corresponding feeling tone of unusual well-being and overt behavior characterized by garrulity, boastfulness and increased psychomotor activity. In other individuals, mild depression and anxiety or only a general sedative effect may be observed. Whether or not the reaction induced by morphine is sufficiently pleasant to induce addiction depends upon the meaning of the effects to the individual and upon the strength of his personality controls. Since morphine does not affect differentiation of stable conditioned stimuli unless a dose sufficient to impair the unconditional response is given, one would not expect morphine to impair intellectual functioning seriously in man even though the drug affects the individual's motivations and emotional attitudes toward life problems.

Himmelsbach (46, 53) has studied the relationship of addiction to the autonomic nervous system as reflected by changes in cold pressor tests and by changes in peripheral blood flow. In nonaddicts and in former morphine addicts, morphine reduced the elevation in blood pressure following a standard cold stimulus and accelerated the return of the blood pressure level to the normal level following removal of the stimulus (46). In addicts, the pressor response to cold was greater than in the controls and the time required for the blood pressure to return to the normal level was increased. The increased response to cold slowly reverted to normal following withdrawal of morphine. Using a plethysmographic method, Himmelsbach (53) found that morphine significantly increased the rate of blood flow to the hand and forearm. This effect on blood flow was dependent upon an intact sympathetic nerve supply. The resting blood flow in the hands and forearms of addicts and former addicts was less than that of marihuana users or nonaddicts. Himmelsbach felt that his results indicated that morphine addicts were "tense" and that morphine relieved tension by depression of the sympathetic division of the nervous system. Himmelsbach postulated that morphine addiction increased the hyperirritability of autonomic centers.

Williams and Oberst (130) carried out extensive metabolic investigations throughout a cycle of morphine addiction, using 2 former morphine addict volunteers. The results of this study were largely negative. Addiction was accompanied by small increases in body water, water content of blood, blood sedimentation rate, carbohydrate intake, and nocturnal activity. Small decreases were noted in body weight, hemoglobin, packed cell volume, pulse rate, basal metabolism,

and diastolic blood pressure. No significant changes were noted in acid-base balance, blood hydrogen ion concentration, serum protein level, and sodium, potassium, calcium, phosphorus, and CO_2 content of blood.

Water metabolism.—Barbour and his collaborators (15, 16) found that morphine addiction altered water metabolism in dogs and that withdrawal of morphine induced hydration of the blood (and probably of the tissues in general). The observations of these investigators appeared to fit in with the experiments of Pierce and Plant (92) who observed sharp decreases in red blood cell count and hemoglobin levels following withdrawal of morphine from strongly addicted dogs. Dietrick and Thienes (30) found that the hydration of the tissues was increased in experimentally addicted rats; but, following withdrawal, there was a partial or complete recovery from the edema with a tendency to relapse on the second or third day of withdrawal. Administration of calcium and parathyroid hormone caused a greater loss of tissue water during withdrawal and partially prevented the increased edema on the second and third day of withdrawal (30, 114). The results of Dietrick and Thienes were not in accord with those of Flowers, Dunham, and Barbour (38) who found that tissue water was increased in the first day of withdrawal of morphine from chronically morphinized rats. Williams (128, 129) found that the water content of blood of morphine addicts was increased as compared with the blood of former morphine addicts and nonaddicts whereas plasma water was the same in all groups. Changes in blood and plasma specific gravity paralleled the changes in blood water content. The packed cell volume was also diminished during addiction. Williams felt that these findings indicated that addiction and physical dependence were associated with hydration of the blood. However, one can calculate from Williams' figures that the increase in blood water is due to the decrease in the hematocrit and that the water content of the blood cells is unchanged. Following withdrawal, Williams found a temporary increase in the hematocrit and a decrease in the blood water. The decrease in blood water during withdrawal would be much more in line with the clinical picture of abstinence in man than would an increase since, during abstinence, water intake is reduced and the amount of water lost by all routes is greatly increased. Isbell (57) studied the blood, plasma, and extra-cellular fluid volumes during a cycle of addiction in 5 former morphine addicts. He found that the packed red cell volume, the red blood cell count, and the circulating red cell mass were reduced during addiction to morphine. The water content of plasma and of blood cells was unchanged. The water content of whole blood was increased but the increase was due to the increased proportion of plasma to cells and not to an increase in the water content of either cells or plasma. The apparent hydration of the blood in addiction is, therefore, really due to a mild anemia. Plasma volume was not altered by morphine addiction. Changes in the extra-cellular fluid volume, as measured by the thiocyanate technic, were more difficult to interpret. Thiocyanate fluid volumes were increased in 3 of 5 subjects during addiction. The increases were present only after the daily dosage of morphine had been elevated to 550 mgm. or more and were more likely to be found during a period when the dosage was being rapidly elevated or shortly after a dosage plateau had been reached. Since all the subjects had developed strong physical dependence on morphine before any alterations occurred in the thiocyanate fluid volume, Isbell concluded that changes in extra-cellular fluid did not play a significant role in the physiology of physical dependence on morphine in man. In other experiments, Isbell (66) found that tolerance to the antidiuretic action of morphine (21) developed in a few days during experimental addiction, using former morphine addicts as subjects.

Theories of physical dependence and tolerance.—The older theories (oxydimorphine, antitoxic substances allergy, replacement of cell constituents, reversible coagulation, pathobiosis, etc.) have been reviewed by Eddy (32) and by Kolb and Himmelsbach (77). They are all unsatisfactory and need not be considered here. Water metabolism was discussed above. The writers know of no new information concerning the distribution, excretion, and metabolism of the opiate drugs which has any bearing on tolerance and dependence. The hypothesis that withdrawal symptoms are entirely "psychic" is not tenable in view of the definite abstinence syndromes which have been produced in various lower animals and in view of the work of Wikler with chronic spinal and decorticated dogs. There remain only two hypotheses to be considered: 1) that of Tatum, Seevers and Collins (112, 113) who state that abstinence symptoms arise because the stimulant effects of morphine outlast the depressant effects; 2) Himmelsbach's (51) hypothesis that tolerance to morphine is due to the enhancement of homeostatic mechanisms which oppose certain actions of morphine. In Himmelsbach's

theory, physiological counterresponses become better developed as injections of morphine are repeated. When morphine is withdrawn the counter-responses are still operative but are unchecked because no drug is present to oppose them.

There have always been a number of difficulties in accepting the concept of Tatum, Seevers and Collins. Signs of abstinence from morphine in almost any species are different from the signs produced by the stimulant actions of the drug. For example, Tatum and Seevers state that miosis and vagal slowing of the heart are stimulant actions. During withdrawal one sees mydriasis and increase in the pulse rate. Convulsions, one of the most striking stimulant actions of morphine in the dog, are certainly not a feature of abstinence in this species. The stimulant actions of codeine are greater in proportion to its depressant actions than are those of morphine. One would therefore expect on the basis of the theory of Tatum, Seevers and Collins that dependence on codeine would be more severe than on morphine. The reverse is the case. The experiments of Wikler (126) on addiction in chronic spinal dogs also does not support the hypothesis of Tatum and Seevers. If the diminution of the flexor reflex in nontolerant spinal dogs is regarded as a depressant effect and accentuation of the extensor thrust reflex as a stimulant effect of morphine, one would expect that, following withdrawal of morphine from addicted chronic spinal dogs, the flexor reflex would be unchanged or altered very little whereas the extensor thrust would be markedly accentuated. Actually, the flexor reflex becomes hyperactive during withdrawal and the extensor thrust is greatly depressed.

The theory that abstinence is due to the release of enhanced homeostatic mechanisms from the brake imposed by the presence of morphine appears to fit the facts better than any other hypothesis yet advanced. Many of the signs of abstinence from morphine are qualitatively the opposites of some of the acute effects of morphine. Morphine depresses body temperature and, during abstinence, one observes fever. Morphine constricts the pupils and in abstinence one sees mydriasis. In the spinal dog, morphine depresses the flexor reflex and during abstinence the flexor reflex becomes hyperactive. Himmelsbach (51) suggested that the homeostatic responses which opposed the actions of morphine are mediated largely by the hypothalamus and the autonomic nervous system. While this may be true, Wikler's work shows that other parts of the nervous system are also involved. Wikler (125) believes that the physiological mechanisms which oppose the actions of morphine in tolerant animals may become conditioned to meaningful stimuli in the manner of ordinary conditioned reflexes. Therefore, in the intact organism, physical dependence may be partly conditioned and partly unconditioned (*i. e.*, both "pharmacological" and "psychic"). According to Wikler, only the adaptive responses to drugs are conditionable whereas direct effects of drugs cannot be conditioned (125).

Since eserine inducted changes in the hindlimb reflexes of chronic spinal dogs which resemble abstinence from morphine and since these effects of eserine are abolished or prevented by morphine, Wikler (125) suggests that abstinence from morphine may be related to cumulative depression of cholinesterase. The effects of the depression of cholinestrease would become manifest only in the absence of morphine which is an anticholinergic drug as well as a depressant of cholinesterase. This hypothesis will require further study.

Residual tolerance.—It is still uncertain whether individuals who have once been addicted to morphine lose their tolerance completely following withdrawal of the drug or continue to maintain some degree of tolerance to certain effects of morphine for indefinite periods of time. Andrews (9) found that opiates had much less effect on the pain thresholds (as measured by the thermal radiation technic) of former morphine addicts than would have been expected from the results obtained on 3 nonaddicts by Hardy, Wolff, and Goodell. Andrews interpreted his findings as indicating residual tolerance to the pain threshold elevating effect of morphine in former addicts. It is difficult to accept this evidence, however, because of the unreliability of the Hardy-Wolff-Goodell method. In the hands of the majority of observers, elevations of the pain threshold are not consistently obtained following administration of morphine to nonaddicts. Isbell (66) found no differences in the effects of small doses of morphine on the pain thresholds of normal individuals and former morphine addicts. The changes in the pain thresholds of both groups were unpredictable. When elevations occurred, they were of much less magnitude than those observed by Hardy, Wolff, and Goodell and a lowering instead of an elevation of the pain threshold after morhpine was seen in some individuals in both groups. In further work, Andrews (11) found that there was no difference between addicts and nonaddicts with respect to the ability of morphine to depress the psychogalvanic reflex

elicited by thermal stimulation. Andrews (5) felt that the fact that the percentage of alpha waves was higher in former morphine addicts than in normals was evidence for some irreversible change produced by morphine addiction. This conclusion should, however, be checked by using as controls a group of prisoners analogous in all characteristics except for addiction rather than by using published data gathered from an ordinary population. Williams (129) was unable to show any differences in the degree of respiratory depression, slowing of the pulse, and depression of body temperature after administration of 20 mgm. of morphine subcutaneously to nonaddicts and former morphine addicts.

Psychological studies of addiction.—Partington (83) studied the mental efficiency of drug addicts using the revised Babcock examination for the measurement of mental deterioration. He found that the Babcock efficiency index of drug addicts was significantly lower than that of the nonaddicts studied by Babcock. This difference was due to the fact that addicts made low scores on tests of learning and motor abilities. Older addicts were significantly more deficient than young addicts but the duration of drug use was not a significant factor affecting mental efficiency as measured by this test. There are several objections to accepting these results. The Babcock test is not regarded as reliable by many psychologists, has not been widely used, and is probably insufficiently calibrated. Partington used the subjects studied by Babcock as his controls and these may have differed significantly from the group of addicts who served as subjects for the experiments. Furthermore, the results are not in agreement with results obtained with other intelligence tests. Brown and Partington (25) administered the Wechsler-Bellevue test of adult intelligence to 371 native white male narcotic drug addicts. They found no significant difference in the intelligence of the addicts as compared with Wechsler's normal group. The mean intelligence quotient of the addicts was 101 (normal IQ is 100). Fewer of the drug addicts were defective and fewer fell into the superior and very superior classifications when compared with the control group of Wechsler. In a further study, Brown and Partington (26) found no differences in the measures generally employed for the estimation of intelligence in a group of 42 former morphine addicts who were matched with a group of hospital attendants with respect to age, sex, intelligence quotient, and nationality. Drug addicts were superior to the hospital attendant group in tests involving cancellation of forms, distributed attention, and arithmetic speed. Addicts, however, showed greater tendencies to persevere than did the hospital attendants. It therefore appears that morphine addiction does not cause any permanent reduction in intelligence.

Brown (23) studied the effect of single doses of morphine upon the personality of former morphine addicts as measured by the Rorschach test. The results indicated that administration of morphine in amounts sufficient to cause satisfactory euphoria resulted in increased capacity for imaginative living with the personality shifting in the direction of introversion. Emotional life was somewhat stimulated but the energy was directed into channels of fantasy living more than in the direction of attention to outer stimuli. In a study of psychological changes during addiction to methadone, Isbell *et al.* (64) noted results similar to those obtained by Brown.

Brown (24) studied two patients through a complete cycle of addiction to morphine. Mental efficiency was reduced as reflected by a slowing of the voice and hand response time, delay in improvement in code learning, and decrease in tapping speed. The amplitude of the electrodermal response elicited by disturbing words was significantly reduced whereas the blood pressure response to the same stimuli was increased. During addiction, the difference between the effects of nondisturbing and disturbing word stimuli on the electrodermal response, respiratory rate, and voice response time was reduced. Brown concluded that morphine may ameliorate the disturbing effects of emotional stress. This conclusion is in accord with clinical experience.

Treatment

Treatment of drug addiction is divided into two phases: withdrawal and rehabilitation. The subject of treatment has been exhaustively covered by Wolff (131) in a recent monograph.

Withdrawal.—Withdrawal is necessarily the first step in the treatment of drug addiction but, nonetheless, it is the least important phase of therapy and is the only part of treatment which is easily carried out (61, 117). The fixation which so many physicians have on withdrawal therapy is reflected in the fact that about 10 new withdrawal schemes which are frequently termed cures are devised each year (131). Many of these withdrawal schemes are based on erroneous theories of addiction and are more harmful than is abrupt withdrawal of drugs

(73, 77). The advocates of many of these withdrawal treatments have been uncritical and have not compared their results with control cases that were subjected to abrupt withdrawal of drugs. Many of the authors of new withdrawal systems appear to be ignorant of the manifestations and course of abstinence from morphine and, in general, practically all neglect the very essential factor of complete control of environment of the addict.

Withdrawal schemes which involve purgation, hyoscine, belladonna, lecithin, blisters, auto-hemotherapy, psychotherapy treatments and hypnosis have been reviewed by Kolb (73) and by Kolb and Himmelsbach (77). All these schemes are valueless and some are dangerous so that no further comment is necessary. The use of insulin during withdrawal, as advocated by Sakel (101, 102), has been studied by Wieder (120). He found that not only was insulin valueless in preventing or ameliorating abstinence signs but that it also increased the discomfort of addicts undergoing withdrawal. Wolff (131) adopted the strange position that, although the treatments mentioned above, particularly the insulin treatment, have been shown to have no beneficial effects on objective withdrawal phenomena, they should nevertheless be used because the "suggestive effect" of these treatments is of value. Withdrawal of morphine or similar drugs is actually a very simple procedure provided adequate control of the environment can be achieved, and no complicated symptomatic treatment is necessary. Abrupt withdrawal is seldom used since it carries a small risk of death (77) and because it is unnecessary and cruel. Slow withdrawal (gradual reduction of the drug over a period of a month or more) is also seldom used except in cases complicated by serious organic disease. Rapid withdrawal (reduction of the drug over a period of less than 14 days' is now most popular. Generally the drug is reduced over a period of 7 to 10 days. Only mild to moderate signs of abstinence will be observed when this system is used. Himmelsbach (47) recommends the administration of one full stabilization does of morphine during the first day of withdrawal, one single injection of three-quartets of the stabilization dose of morphine during the second day and two injections of one-half and one-quarter of the stabilization dose of morphine during the third day. Diminishing amounts of codeine are given during the fourth, fifth and sixth days. Himmelsbach's method is based on the observation that one stabilization dose of morphine will significantly reduce the total intensity of abstinence without prolonging its course. This system is popularly known as the "pick-up" system and is very effective. Substitution of methadone for morphine followed by withdrawal of methadone is the most recent advance in rational withdrawal therapy (65, 117). This method is based on the observation that methadone suppresses signs of abstinence from morphine and, during rapid withdrawal of methadone, signs of abstinence are milder than those observed during rapid withdrawal of morphine (62). However, treatment by methadone substitution and reduction is only slightly better (65) than simple reduction of morphine.

Adjunctive therapy during withdrawal includes the judicious use of sedatives and hypnotics, maintenance of fluid balance, hydrotherapy, and simply psychotherapeutic technics such as assurance directed against the emotional reaction to withdrawal (47, 61, 73, 75–78, 98, 99, 116, 121).

Himmelsbach studied the effects of certain adjuncts which have been recommended by various authors as being useful in withdrawal of morphine and found all the following to be of little or no value: pyrahexyl compound (1, 2, 52) large doses of thiamine (37, 44), prostigmine (55), pyridoxine (56), pentobarbital (56) and atropine (56). Isbell (66) found that although dibenamine, tetraethylammonium and dibutoline abolished some of the autonomic signs of abstinence, they did not reduce the actual suffering of the patient.

More recently, Kells (67) reported that pyribenzamine alleviates withdrawal symptoms. Schlan and Unna (104) found that myanesin abolished objective abstinence signs without affecting the craving of the addicts for drugs. The results of both Kells and Schlan and Unna will have to be checked under controlled conditions before they can be accepted.

It has recently been reported (81, 94, 103) that, following prefrontal lobotomy, abstinence symptoms did not appear after withdrawal of morphine from individuals presumably addicted to that drug. In none of these studies was the presence of dependence proved by preliminary withdrawal prior to operation, environmental control was poor, withdrawal of drugs after operation was usually gradual, and the authors did not appear to be sufficiently familiar with the manifestations and course of abstinence.

Watts and Freeman (118) observed manifestations suggestive of abstinence (fever, tachycardia, etc.) after withdrawal of morphine from a leucotomized

patient. Dynes and Poppen (31) also mention abstinence signs of such severity that morphine had to be withdrawan gradually from lobotomized patients. It is difficult to understand how lobotomy would abolish withdrawal symptoms in view of the strong abstinence syndromes observed in chronic decorticated and chronic spinal dogs by Wikler, although it is not surprising that the emotional reaction to withdrawal would be greatly altered by this surgical procedure. Again, further observations carried out under properly controlled conditions will be necessary to settle the point definitely. Regardless of whether lobotomy alleviates withdrawal symptoms, the procedure would not be justified as a treatment for drug addiction *per se*, since the personality defects which commonly follow this procedure are more devastating to the patient than is addiction.

Rehabilitative treatment.—The treatment of drug addiction can be carried out successfully only in institutions (74–76, 98, 99, 116, 117). Attempts at treatment in the home practically never succeed and in fact complete withdrawal of drugs is seldom accomplished under such circumstances. It follows that a certain degree of coercion is usually desirable and necessary in the treatment of drug addiction. Coercion may take the form of pressure from relatives, friends or law enforcement officers. In many instances the only solution is to arrest the addict and have him sentenced for violating the narcotic laws (74). Individuals, however, who are not criminals or whose criminal activities arose merely as a consequence of their addiction should not be sent to an ordinary penal institution but to an institution devoted entirely to the treatment of drug addiction (75, 96). The contacts and associations which the addict builds up in ordinary penal institutions are often more damaging than the addiction itself. Sentences imposed for narcotic addiction should not be long (74). The deterrent effect of incarceration is as great if sentences of one year are imposed as if sentences of five years are given (74). Long sentences may engender attitudes of hostility and may foster the development of dependence on institutional existence (96, 99). Wherever possible, sentences should be probated conditionally upon completing treatment (74–76, 96, 97) since this permits an addict to be discharged once he has reached maximum benefit from his treatment. It also provides for a period of supervision following discharge and, if the addict relapses prior to the expiration of the probationary sentence, he can be returned to the institution without the trouble and expense of another trial. Time is an important element in the treatment of drug addiction. The optimum period of time varies in individual cases but, in general, several months are required before maximum benefit from treatment is reached (74–76, 116, 117, 121).

After drugs have been withdrawn, any curable physical disease which the addict may have should receive appropriate medical or surgical treatment. In patients suffering with chronic diseases which are not curable, the treatment should be designed to achieve the maximal amount of physical benefit possible and to teach the patient to live with and manage his disease without resorting to narcotics (61). In individuals whose addiction is attributable to the presence of chronic pain, appropriate surgical procedures (sympathectomy, dorsal root section, cordotomy, or prefrontal lobotomy) should be considered.

Occupational therapy forms an exceedingly important part of treatment of drug addiction (61, 75, 76, 78, 117). All patients who are able to work should be provided with an opportunity to engage in a useful, productive occupation of a nature which will maintain and add to any existing skills. Patients with chronic diseases should not be allowed to vegetate on infirmary wards but should, within the limits imposed by their diseases, be given some type of useful activity to pursue and, if possible, should be trained in some occupation which they can carry on despite their infirmity and which will enable them to support themselves when discharged. Occupational therapy should be reinforced by a program of recreational therapy including a program of athletics, motion pictures, music and other amusements, and an ample supply of reading material.

Psychotherapy. The psychotherapeutic treatment of drug addiction is essentially not different from the psychotherapeutic treatment of non-addicted individuals who suffer with neuroses or character disorders. It is therefore a very broad subject which cannot be adequately covered in this review. Psychotherapy always has to be individualized and is dependent both upon the training, orientation and skill of the therapist (61, 117) and on the nature of the psychiatric problem. The first decision which must be reached in any given case is whether psychotherapy should be offered at all. Many addicts with intense infantile fixations obtain very little benefit from psychotherapy and, in such instances, the best procedure is to provide a short period of intensive institutional supervision followed by a long period of supervision of the patient in his home environ-

ment (117). Other patients who developed a higher level of emotional maturity prior to becoming addicted should be offered intensive individualized psychotherapy There are, unfortunately, not enough psychiatrists to administer psychotherapy to all the patients who need and will accept it. This deficiency in psychiatric facilities can perhaps be partially bridged by organizing group psychotherapeutic sessions.

Many addicts appear to derive great benefit from participation in the inspirational approach of the group known as Alcoholics Anonymous or the more recently organized Addicts Anonymous (61, 116). These groups also provide a continuing stimulus to remain abstinent from drugs after the patient is discharged.

Whenever possible, treatment should be continued after the patient is discharged from the institution. Prior to discharge, the patient should have a definite plan of life. He should have a job and a place to live. Arrangements should be made for continuing supervision of the addict by his family physician, parole officer (97), minister or friends. The addict should not be returned to an environment where frequent contact with other addicts is unavoidable. Resources of an efficient, well organized, social-service department are invaluable in assisting the patient to make proper plans for post-institutional treatment.

Results of treatment.—Results of treatment of drug addiction are very difficult to assess because the clientele of institutions treating addicts is drawn from the entire United States so that adequate follow-up studies would be prohibitive in cost. Discharged patients are also naturally reluctant to maintain contact with an institution devoted to the treatment of addicts because of the danger that their employers and friends may learn of their addiction. They therefore use false names and addresses and do not readily respond to follow-up letters. The best study of the results of treatment was made by Pescor (88) who attempted to obtain information on the status of 4,766 male patients discharged from the U. S. Public Health Service Hospital at Lexington, Kentucky, between January 1, 1936, and December 31, 1940. Pescor found that the addiction status of these patients could not be determined in 39.6 per cent of the cases, 7 per cent had died following discharge, 39.9 per cent had definitely relapsed to the use of drugs, and 13.5 per cent were known to be still abstinent. It is possible that a large number of the individuals, whose status was unknown, were still abstinent because the institution would have been notified if any of the patients had been arrested for any reason and fingerprints taken. In another study, Vogel (116) found that, of 11,041 addicts admitted between May 1, 1935, and January 1, 1948, 6,788 or 61.4 per cent had been admitted only once. The known relapse rate is only 39.6 per cent which is surprisingly low. In the same paper Vogel states that 22.3 per cent of male patients and 29.8 per cent of female patients who were discharged from the Lexington hospital between 1942 and 1946 and who had remained in the institution for a period of time sufficient to obtain maximum benefit were reliably believed to be still abstinent. 35.1 per cent of the men and 36.6 per cent of the women were reliably believed to have relapsed to the use of drugs. The status of 42.6 per cent of the men and 33.6 of the women was unknown. One must conclude from the figures of Pescor and Vogel that the treatment of drug addicts is still far from satisfactory. Improvement in the results is probably dependent more upon advances in psychiatric treatment than on any other single factor. On the other hand, it also seems fair to conclude that treatment of drug addiction is far from hopeless. Furthermore, many addicts who do relapse remain abstinent for a number of years before returning to the use of drugs. Such periods of abstinence must be regarded as a considerable gain, just as a long remission is counted as a gain in the case of other chronic relapsing diseases such as tuberculosis or arthritis.

III. ADDICTION TO BARBITURATES

In the United States and England it has been commonly held that barbiturates did not produce dependence and were therefore not addicting. For this reason these drugs have not been subjected to as intensive investigation with respect to addiction liability as have morphine and other analgesics.

Incidence of chronic intoxication with barbiturates.—It is very difficult to obtain any worthwhile statistics on the incidence of addiction to barbiturates. Chronic barbiturate poisoning is not a reportable condition and the manifestations of barbiturate addiction are not familiar to many physicians. Chronic barbiturate intoxication is frequently misdiagnosed and masquerades as intoxication with alcohol (163) or as organic disease of the nervous system (149, 166, 168, 175). Barbiturates are frequently used in conjunction with some other drug, particularly

opiates or alcohol. In hospital records, such cases are usually listed as addition to narcotics or as alcoholism without mention of barbiturates.

There is evidence that addiction to barbiturates was increasing in Germany prior to 1939. In the years 1923 to 1928, Pohlisch and Panse (181) observed only 14 cases of chronic barbiturate intoxication in the material of the psychopathic hospitals in the Berlin area. Between 1928 and 1932, 117 cases were admitted to these hospitals. Schubert (193), working in Bonn, could find reports of no cases in that locality between 1925 and 1929. Between 1929 and 1935, Schubert states that chronic intoxication with barbiturates accounted for 1.1 percent of admissions and exceeded the number of cases of morphinism. In the United States, the situation is less clear. In 1940, Hambourger (161) stated that addiction to barbiturates was not rare and accounted for one of every 15,000 hospital admissions. In 1942, Wagner (209) sent a questionnaire to all members of the Connecticut State Medical Society. Of 937 doctors who replied, 306 stated that they "frequently" saw cases of addiction to barbiturates. On the other hand, Goldstein (157) stated that, in 1947, barbiturate addiction was not only rare in the United States but was also actually decreasing. Lowy (167), on the basis of responses to questionnaires circulated to all types of hospitals, estimated the incidence of barbiturate addiction as being only 615 in 2,500,000 hospital admissions.

There is other evidence which suggests that chronic intoxication with barbiturates is increasing in the United States. This includes the increased incidence of barbiturate addiction among narcotic addicts admitted to the United States Public Health Service Hospital at Lexington, Kentucky (163), the increased number of inquiries relative to treatment of barbiturate addiction which have been received in recent years at the same institution, and the increased number of tips investigated by narcotic agents which finally proved to be cases of chronic barbiturate intoxication and not cases of narcotic addiction. A number of articles which have appeared in popular magazines (138, 145, 146, 211) also state that abuse of barbiturates is increasing and, in fact, has become serious. These popular articles give descriptions of illegal sales of barbiturates by unscrupulous pharmacists and by peddlers. Both State (208) and Federal (183) Food and Drug officials confirm the fact than an illegal market exists. Food and Drug officials have records of prescriptions for barbiturates which were refilled hundreds of times. The seriousness of the situation is also reflected by the large number of states that have enacted legislation regulating the distribution and sale of barbiturates (144, 155) and by the continuing agitation for Federal controls.

No one questions the tremendous increase in acute intoxication with barbiturates and, as pointed out by Trichter (208) and Camp (145), many of the cases of acute intoxication probably represent instances of superimposition of acute poisoning on a preexisting barbiturate addiction. The production of barbiturates in the United States now amounts to more than 300 tons yearly. Between 1933 and 1945, the number of fatal cases of poisoning with barbiturates in the United States increased 300 per cent (133, 135, 157, 158, 176, 208). The number of cases of poisoning with barbiturates is exceeded only by the number of cases of poisoning with carbon monoxide (158, 208). Despite the low mortality rate, which averages only about 8 per cent, barbiturates cause more deaths than any other solid or liquid poison (135, 154, 157). They are also the most common agents used in suicidal attempts but, as Tatum (205) Camp (145) and Trichter (208) point out, many of the suicides are probably not intentional but are due to impairment of judgment and memory. Individuals chronically intoxicated with these drugs forget the number of capsules they have ingested, continue to take more and more and, finally, unintentionally kill themselves. This condition has been termed "automatism" in England. It seems very probable that the rise in chronic intoxication and barbiturates has paralleled the rise in acute intoxication with barbiturates.

Types of abuse of barbiturates.—In the United States addicts prefer the potent short-acting barbiturates (pentobarbital, seconal, amytal) to the milder long-acting drugs (barbital and phenobarbital). The drugs are usually taken orally although some narcotic drug addicts inject them intravenously. Barbiturates may be used for single debauches lasting for only a night or for "sprees" of several days' or weeks' duration. In many instances, thay are taken continuously for months and years. The use of barbiturates to reinforce the effect of alcohol is quite common and appears to be increasing. The concomitant use of barbiturates and amphetamine is also popular and is reminiscent of the combined use of morphine and cocain by narcotic drug addicts. It is difficult to determine

from clinical histories the amount of drugs used by barbiturate addicts since such patients actually do not know how much they have been taking because of the confusion and mental impairment produced by these drugs. It is, however, unlikely that any individual can continue to ingest more than 2.0 grams of pentabarbital or seconal or 4.0 grams of amytal daily for any extended period of time. Probably the average intake during continuous chronic intoxication is about 1.5 grams of either pentobarbital or seconal and about 3 grams of amytal daily.

Etiology.—As in morphine addiction and alcoholism, personality disorders appear to be the most important predisposing cause of addiction to barbiturates (136, 137, 149, 150, 170, 172, 180, 181, 187, 188, 199, 214). Statistics on the personality characteristics of barbiturate addicts are scant in number but the majority of barbiturate addicts are either psychoneurotics or are suffering with character disorders (constitutional psychopathy). Pohlisch and Panse (181) state that psychically normal individuals do not become addicted to barbiturates. Individuals with sleep disturbances, either "inherited" or due to psychoneuroses, are particularly prone to barbiturate addiction. According to Pohlisch and Panse, psychoneurotic individuals usually begin the use of barbiturates to induce sleep. In the beginning of addiction, psychoneurotics usually take reasonable amounts of barbiturates but later increase their dosages rapidly. The drug then becomes a means of intoxication and not a method of obtaining sleep. Psychopaths begin the use of barbiturates in order to become intoxicated rather than to induce sleep and, therefore, elevate their dosage very rapidly from the onset.

In contradistinction to the situation in addiction to analgesics, a large number of individuals are introduced to barbiturates as a result of medical administration. Introduction of the potential addict to the drug in illegal fashion does occur, however, and is apparently increasing (158, 208).

Other types of intoxication definitely predispose to barbiturate addiction. Morphine addicts take the drug when they are unable to buy morphine. This frequently leads to concomitant use of barbiturates and morphine. Many alcoholics use barbiturates to relieve the symptoms which follow an alcoholic debauch and soon begin taking barbiturates to augment the effects of the alcohol. Many alcoholics, after being introduced to hypnotics, abandon alcohol completely and use only barbiturates.

Addiction of experimental animals to barbiturates. Seevers and Tatum (197) administered 100 mgm./kgm. of barbital daily to dogs for periods ranging up to three and one-half years. After two to six months, characteristic signs were seen 24 hours following withdrawal of the drug. These included muscle tremors and incoordination. After 48 hours of abstinence, marked irritability, motor unrest and convulsions were observed. Pathological changes were observed in the nervous systems of 2 dogs which received barbital for 33 to 37 months. Carratala (147, 148) administered barbital, dial, and sonnifen to dogs in increasing doses for periods of 44 to 57 days. After withdrawal of the drug for periods of 48 hours, Carratala reported increased irritability and convulsions. Stanton (198) found no increase in the predose irritability of rats that received 8 to 23 mgm. of sodium phenobarbital or 6 to 36 mgm./kgm. of sodium pentobarbital subcutaneously daily for seven weeks. Irritability also did not increase following complete withdrawal of these drugs at the end of the experiment. Stanton did observe shortening of the sleeping time as addiction proceeded. Swanson, Weaver, and Chen (204) gave 40 mgm./kgm. of sodium amytal to dogs and 35 to 40 mgm./kgm. to monkeys intravenously three times weekly for periods of two to four months. Two monkeys received 35 to 40 mgm./kgm. daily for two months. No evidence of abstinence was observed following withdrawal in any of these animals. Swanson, Weaver, and Chen therefore concluded that sodium amytal did not produce "true" addiction. They did admit the possibility of abuse of the drug by individuals with abnormal personalities.

Clinical evidence concerning abstinence from barbiturates.—The majority of the papers on chronic barbiturate intoxication which have appeared in the American and English literature state that no abstinence symptoms follow withdrawal of barbiturates (149, 150, 156, 158, 160, 176, 205, 208, 210, 213) or else do not mention whether abstinence appeared after discontinuation of the drug (136, 137, 162, 182, 186–189, 207, 214). These papers are useful chiefly for clinical descriptions of maintained chronic barbiturate intoxication.

The German investigators have been more astute and have recognized since 1912 that convulsions and delirium may follow the abrupt withdrawal of medication from individuals chronically intoxicated with barbiturates (142, 143, 152, 168, 169, 174, 180, 181, 192, 193). The monograph of Pohlisch and Panse (181)

is outstanding in this respect and reviews the findings in 131 cases of chronic barbiturate intoxication. Most of the German authors were strongly impressed by the resemblance of the barbiturate abstinence syndrome to alcoholic delirium tremens.

Since 1940 a small number of articles have appeared in the American literature which describe the occurrence of convulsions following withdrawal of barbiturates (141, 153, 164, 178). The occurrence of delirium during abstinence from barbiturates, although mentioned by Osgood (178), has not been stressed by the American authors. Both German and American authors have described the increased incidence of convulsions following withdrawal of phenobarbital from epileptics (151, 185, 191).

Although the clinical papers on withdrawal of barbiturates were very suggestive, it was actually impossible from the data in these communications to determine whether the phenomena observed after withdrawal of barbiturates were due solely to abstinence from barbiturates. The histories of the barbiturate addicts were unreliable with respect to dosage and length of addiction. Barbiturate addicts may deliberately exaggerate the amounts of drugs they take, and also may be unable to recall the amounts used on account of the drunkenness and confusion produced by the drugs. Many of the cases reported represented examples of mixed addiction to morphine and barbiturates, to alcohol and barbiturates, and frequently to other drugs as well. The possibility therefore existed that convulsions and psychoses during withdrawal were due either to direct poisoning or to abstinence from a combination of drugs. Many of the patients were suffering from other diseases and large numbers of them were emaciated and malnourished. In many instances, withdrawal of barbiturates was not abrupt and usually barbiturates and other drugs were administered to these patients during withdrawal of barbiturates. The physical and mental status of these patients prior to chronic intoxication with barbiturates was unknown so that it was difficult to determine whether the development of convulsions and psychoses was dependent upon an underlying psychotic epileptic diathesis or whether any permanent physical or mental damage followed chronic barbiturate intoxication.

In order to obviate the difficulties mentioned in the preceding paragraph, Isbell and his collaborators (163) administered large amounts of pentobarbital, seconal, and amytal to 5 former morphine addicts for periods ranging from 92 to 144 days. Following withdrawal of barbiturates from these experimentally addicted individuals, convulsions occured in 4 of the subjects and psychosis of delirium-like nature occured in 4. These symptoms did not appear as long as the patients were taking barbiturates. Recovery following abstinence was apparently complete. Isbell *et al.* therefore concluded that true abstinence symptoms do follow withdrawal of barbiturates from chronically intoxicated individuals. The abstinence symptoms were not due to a combination of intoxication, to malnutrition, or to a pre-existing psychotic or epileptic diathesis. Chronic barbiturate intoxication did not produce any permanent damage which could be detected by clinical or psychometric examination.

The clinical picture of chronic barbiturate intoxication in man.—Practically all authors are agreed on the manifestations of chronic barbiturate intoxication in man (136, 137, 149, 150, 163, 170, 180, 181, 193, 199, 207, 214). The symptoms are identical with those seen in the milder types of acute barbiturate intoxication. The signs observed are chiefly due to the effects of the drugs on the central nervous system. The clinical picture is strikingly similar to that of individuals who are chronically intoxicated with alcohol except for the fact that persons who are addicted only to barbiturates continue to eat and maintain a good state of nutrition (163). The mental signs include confusion, impairment of intellectual ability, defective judgment, loss of emotional control and accentuation of pathological features in the personalities of the addicts. Individuals who are chronically ingesting barbiturates become hostile, or even assaultive, at fancied insults or minor incidents. They are slovenly in their dress, spill food on themselves, and live like pigs. They regress psychically and behave like small children. Frequently they are so depressed that suicide becomes a distinct possibility. The degree of mental impairment is so great that they are totally unable to work or to care for themselves. Though they may be so intoxicated that they cannot stand, they will try to obtain even more barbiturates. True toxic psychoses are, however, probably rare during maintained barbiturate addiction. Although patients are confused and think with difficulty they are usually oriented in time, place, and person and hallucinations and delusions are seldom observed. When

a psychosis does occur it is probably due to the superimposition of an acute intoxication on the chronic state.

The neurological signs of chronic barbiturate intoxication are predominantly motor in nature and suggest cerebellar disease, multiple sclerosis, Parkinsonism or alcoholism. Neurological signs include ataxia in gait and station, dysarthria, dyssynergia, adiadokokinesis, hypotonia, tremor, depression of the abdominal reflexes, and occasionally transient clonus and positive Babinski signs. The pupils and deep reflexes are little altered. There are no sensory changes. The other findings include mild depression of systolic and diastolic blood pressures and lowering of body temperature. Pulse and respiratory rates are little altered. Gastrointestinal, urinary, respiratory or cardiac symptoms are rare. The total amount of sleep per day is increased only an hour or two.

One of the most striking features of chronic barbiturate intoxication in the experiment of Isbell *et al.* (163) was the great variation in the effect of the barbiturates in different individuals and in the same individual on different days. One man who took 1.8 to 2.0 grams of seconal daily, exhibited only mild to moderate signs of intoxication while another individual who was receiving only 1.3 grams of seconal daily can best be described as a staggering drunk. On certain days, a dose of barbiturate would produce little effect in a given individual and on other days the same dose would cause severe intoxication and even light coma. Variations in the same individual were partly related to differences in food intake on different days but even after food intake was controlled considerable variation persisted. The variations in the inherent tolerance of different individuals to barbiturates has been commented on by Newman (177). Even with short acting barbiturates, such as seconal, cumulative effects were observed in Isbell's subjects.

It is apparent from the foregoing description that chronic intoxication with barbiturates is a very formidable and dangerous condition. Even if no abstinence followed withdrawal of barbiturates, the effects are so harmful that chronic use of barbiturates would have to be classified as an addiction under the terms of the definition proposed by the National Research Council's Committee on Drug Addiction.

Tolerance to barbiturates

Animal experiments on tolerance.—This subject has been ably reviewed by Tatum (205, 206) and by Seevers and Tatum (197). As Tatum states, the majority of the investigators who have studied this problem agree that some tolerance to the hypnotic effect does occur (147, 148, 171, 198). The degree of tolerance is not great and is usually manifested by a decrease in sleeping time following administration of the barbiturates. Only Swanson, Weaver and Chen (205) deny the existence of any tolerance. Agreement is less general with respect to tolerance to the toxic effects. Seevers and Tatum did not demonstrate any increase in the lethal dose of barbiturates during chronic intoxication of dogs with sodium barbital and Stanton (198) found no tolerance to the toxic effects in rats. Carratala (147, 148) reported tolerance to both the hypnotic and toxic effects in dogs. Gruber and Keyser (159) administered butisol, amytal, cyclopal, pentobarbital, ortal, seconal and evipal to dogs, rabbits, and albino rats. As measured by the duration of sleeping time, all these species developed partial tolerance to the hypnotic action of these various barbiturates when they were chronically administered. Tolerance to one barbiturate conferred partial cross-tolerance to others. Tolerance to the hypnotic action conferred no protection against the toxic effects of the drug. It therefore appears that one must conclude, as did Tatum (205, 206), that some tolerance is developed to the hypnotic effects of the barbiturates but it is unlikely that chronic administration will raise the LD_{50}.

Tolerance in man.—The German writers, particularly Pohlisch and Panse (181), state very definitely that individuals who chronically ingest large amounts of barbiturates develop tolerance to the hypnotic effects regardless of the type of barbiturate used. A greater degree of tolerance can be developed against the hypnotic effect of phanodorn than against those of any other barbiturates known to these German authors. Isbell and his associates (163) found that it was very difficult to determine whether tolerance developed during the course of experimental addiction to pentobarbital, seconal, and amytal because of the marked fluctuation in the effects of the drugs from day to day. Tolerance to hypnotic and sedative effects was much less developed in barbiturate addiction than in morphine addiction. After 4 of Isbell's patients had recovered following withdrawal, they were abruptly placed on the same dosage of barbiturates they had attained gradually during addiction. All 4 patients became much more intoxicated than they were at any time during addiction. Some degree of toler-

erance must, therefore, have developed during chronic administration of barbiturates.

Intolerance to barbiturates.—Seevers and Tatum (197) found that, during chronic experimental barbital poisoning, dogs first became tolerant and then reached a stage of intolerance in which barbiturates produced such severe effects that the animals were in danger of death. Seevers and Tatum ascribed this intolerance to the development of pathological changes in the central nervous system. Pohlisch and Panse (181) state that humans first become tolerant to barbiturates and finally reach a stage in which small doses of barbiturates cause pathological intoxication. This state of intolerance, according to Pohlisch, frequently precedes abstinence and is similar to the state of intolerance noted in alcoholics before the onset of delirium tremens. Isbell and coworkers (163) did not observe any intolerance in their experimental subjects but the period of intoxication in this experiment was much shorter than the period of intoxication in many of the cases of Pohlisch.

Pathological changes in chronic barbiturate intoxication.—The majority of investigators who have studied chronic barbiturate intoxication in animals have reported the occurrence of pathological changes in the central nervous system. Mott, Woodhouse and Pickworth (173) administered 150 to 300 mgm. of barbital, dial, phenobarbital and soneryl daily to cats for periods varying between one and six weeks. 300 to 600 mgm. of these same drugs were administered daily to monkeys for comparable periods of time. Following withdrawal of these drugs, both cats and monkeys made a rapid recovery and showed no obvious clinical signs of permanent anatomical damage. Histological examination revealed the presence of masses of mucinoid material in the central nervous system of the animals. The mucinoid material was especially abundant in the white matter of the cerebellum but also occurred in the white substance of the mid-brain and spinal cord, and to a lesser extent, in the gray matter of the cord, brain stem and cerebral cortex. Occasionally globules of mucinoid material were observed within the nerve cells, especially in the anterior horn cells of the spinal cord. This mucinoid material was not present in the tissues of animals that had not received barbiturates and slowly disappeared from the nervous systems of chronically poisoned animals following withdrawal of barbiturates. In addition to the mucinoid material, Mott, Woodhouse and Pickworth observed degenerative changes in the Purkinje cells in the cerebellum, in the anterior horn cells of the spinal cord and in the Betz cells of the motor cortex. These changes were not specific for chronic barbiturate poisoning but also appeared after a chronic administration of sulfonal, trional or urethane. Examination of the brains of two of the dogs used by Seevers and Tatum (197) showed thickening of the leptomeninges, changes in the endothelial linings of the blood vessels, and alterations in glial cells and the oligodendroglia. Shrinkage, pyknosis and encrustation of the ganglion cells were observed. Seevers and Tatum also reported the presence of mucinlike material which was present intra- and extra-cellularly. Carratala (147, 148) described thickening of the leptomeninges and perivascular hemorrhages in the central nervous system of dogs chronically poisoned with various barbiturates. Schulte (194) did not find any histologic evidence of damage to the skin, liver, spleen or heart muscle of dogs who received 50 mgm./kgm. of pentobarbital or amytal intraperitoneally twice weekly for 205 days. Since the intoxication was not continuous in Schulte's experiment, the lack of pathological changes is not surprising. Schulte did not examine the central nervous systems of his animals histologically. Swanson, Weaver and Chen (204) also found no pathological changes in dogs and monkeys after intermittent and continuous chronic administration of sodium amytal intravenously. The investigators who have reported negative findings generally have not administered the drug at sufficiently short intervals for sufficiently long periods of time to make their results convincing. One must, therefore, conclude that, in animals, chronic barbiturate intoxication produces pathological changes in the nervous system. It is, however, difficult to relate the pathological changes to the symptoms seen during intoxication or withdrawal.

The authors know of no reports on the pathology of chronic barbiturate intoxication in man. So far as can be ascertained by clinical methods, most human subjects appear to recover completely from chronic barbiturate intoxication. The German authors, notably Pohlisch (180) and Pohlisch and Panse (181), comment on the fact that peripheral neuritis and Korsakoff's syndrome are not seen following abstinence from barbiturates. Since both of these conditions are now believed to result from nutritional deficiency, it is not surprising that they do not occur following chronic barbiturate intoxication because barbiturate

addits continue to eat and maintain a good state of nutrition (163). If irreversible pathological changes do occur in man they are so slight as to be undetectable by clinical means and are not sufficient to cause any permanent physical handicap to individuals who have abused these drugs. Barbiturate addits are much more likely to develop permanent damage as a result of trauma resulting from a fall while intoxicated or from a convulsion during abstinence than as a result of pathological changes due to direct effects of the drug.

Clinical picture of abstinence in man. The following description of withdrawal of barbiturates is based primarily on the five cases of Isbell *et al.* (163). These represent the only instances in which the actual dosage of barbiturates and length of chronic intoxication were definitely known. The 5 patients, who were addicted only to barbiturates, were subjected to complete abrupt withdrawal under conditions so controlled as to minimize the possibility of the patients smuggling in drugs of any sort. The description, however, agrees well with the descriptions of other authors (141, 142, 143, 152, 153, 168, 169, 174, 178, 180, 181, 192, 193).

During the first 12 to 16 hours of abstinence from barbiturates, patients improve and the signs suggestive of cerebellar dysfunction disappear. As the signs of intoxication decline, patients become apprehensive and so weak that they can hardly stand. Fasciculation of various muscles appears and a coarse tremor of the hands and face is evident. The deep reflexes become hyperactive and slight stimuli may cause excessive muscular responses. The patients cannot sleep, are nauseated, have abdominal cramps and frequently vomit. Systolic blood pressure is elevated about 20 mm. of mercury, and the pulse rate is increased about 10 to 20 beats per minute. Patients may lose as much as 5 kgm. of body weight in the first 36 hours of abstinence. The weight loss is due to loss of body water by all routes, to decreased intake of fluid, or to both. Elevation of the non-protein nitrogen content of the blood, hyperglycemia and hemoconcentration appear and are attributable in part to dehydration. Patients also develop difficulties in making cardiovascular adjustments on assuming the upright posture. On standing, their pulse rates rise 40 to 80 beats per minute and systolic blood pressure, while fluctuating widely, generally falls 15 to 50 mm. of mercury while the diastolic blood pressure increases. The pulse pressure is therefore narrowed. The cardiovascular changes, unlike those observed in normal individuals, become more marked the longer the patients remain standing. These changes are not similar to the disturbance in postural hypotension in which both systolic and diastolic blood pressures decrease upon standing and in which the normal increase in the pulse rate fails to occur. This derangement in cardiovascular physiology resembles the disturbance seen during or after many severe febrile illnesses, particularly severe infections. No clinical or electrocardiographic evidence of myocardial damage can be detected.

As serious and severe as these symptoms are, they are followed by even more dangerous phenomena. Between the 16th hour and the fifth day of withdrawal, usually about the 30th hour of abstinence, the patients may have one or more convulsions which are indistinguishable from those observed in idiopathic grand mal epilepsy. The patients usually regain consciousness within a few minutes after the onset of the convulsion. They may be slightly confused for an hour or two following the convulsion but prolonged stupor such as is seen in grand mal epilepsy was not observed. Ordinarily, patients have no more than three convulsions but numerous minor episodes characterized by clonic twitching of one or more extremities, without loss of consciousness, or by athetoid movements of the extremities which may occur between and after major convulsions. Hyperventilation resulting in alkalosis with concomitant paresthesias of the hands and feet is occasionally observed. Between or following the convulsions, patients continue to exhibit weakness, disturbed cardiovascular adjustments on changes in posture, anorexia and nervousness. Unless the patient develops a psychosis, these symptoms gradually disappear and after two or three weeks the patients recover completely.

Independent of the occurrence of convulsions, patients may develop a psychosis which usually appears between the third and seventh day of abstinence. The onset of the psychosis is often heralded by insomnia of 24 to 48 hours duration, after which patients begin to experience visual and auditory hallucinations. Visual hallucinations are more prominent. Hallucinations at times are amusing and at other times very disturbing. Patients may see little people, giants, absent relatives, animals, insects, birds, snakes, fish, etc. The patients may believe that imaginary persons are trying to harm them. They may state that they have been blown up, "cut with knives," or forced to drink poison. Nonexistent people

talk to and threaten them, and radios, which no one else can hear, play beautiful music. The patients are confused and usually disoriented in time and place but not in person. They may misidentify objects, persons, and noises. They have a marked coarse tremor. The attention span is short; patients who are experiencing hallucinations will start to answer a question, stop before completing the answer, and begin to stare at their immaginary visitors. The emotional reaction to the psychosis appears to be influenced by basic personality traits of the patient. Some individuals become extremely agitated, try to fight or escape from their imaginary persecutors and may become dangerously exhausted. Other patients lie quietly and watch the strange visitors and listen to the imaginary music without taking any action. Some patients are so quiet that, even though they are having hallucinations, the psychosis may not be detected unless it is specifically looked for. Occasionally schizophrenic-like reactions are observed. Patients may show mutism or bizarre affect, have ideas of control and influence, build up a system of paranoid delusions and experience sexual hallucinations. Characteristically, the psychosis appears more readily and is more severe during the night. Untreated patients will usually recover from psychosis within two weeks of its onset. Some will recover in three or four days and some may require two or three months. Improvement usually occurs with the return of the ability to sleep. Hallucinations become less vivid and finally disappear. The patients may have delusions for a few days and believe that their hallucinations are real. After recovery, most patients can recall and describe some of the hallucinations they experienced during the psychosis.

The manifestations of withdrawal of barbiturates, like abstinence from morphine, vary from person to person. Certain individuals may escape with anxiety, weakness, anorexia, etc., as the only symptoms. Others may develop convulsions and not a psychosis. Still others may have a psychosis but no convulsions. Convulsions may precede or follow the psychosis.

It is probable that signs of abstinence will occur following long intoxication with any of the known barbiturates. Reports in the literature show that convulsions, psychosis, or both have occurred after the withdrawal of barbital (174, 180, 181, 192), phenobarbital (180, 181), pentobarbital (163, 178), amytal (163, 178), and phanodorn (142, 143, 152, 169, 181, 193). Whether the barbiturate abstinence syndrome is more likely to occur and is more severe after intoxication with any particular barbiturate is unknown, although Pohlisch (181) found that psychoses and convulsions occurred more frequently after withdrawal of phanodorn than after withdrawal of barbital or phenobarbital.

Electroencephalograms in chronic barbiturate intoxication.—During acute intoxication with barbiturates of mild degree, the characteristic change in the electroencephalogram consists of the appearance of an increased number of waves with frequencies of 15 to 30 per second (140, 201, 202, 203). As the degree of barbiturate narcosis increases the fast (beta) activity is largely replaced by large slow waves (delta) which are similar to, or identical with, those occurring in natural sleep. In very intense narcosis, complete absence of electrical activity for short periods may be observed (201, 203). The changes during chronic barbiturate intoxication are similar to those observed during mild acute barbiturate narcosis. Characteristically, the electroencephalogram in maintained chronic barbiturate intoxication reveals an increased number of high voltage waves with frequencies of 20 to 30 per second (163). During the early stages of addiction to barbiturates, slow waves are seen; but, as addiction proceeds, these disappear. This may indicate some degree of tolerance. During the first 12 to 48 hours after barbiturates are withdrawn, the number of beta waves decreases and paroxysmal bursts of high amplitude waves with frequencies of four to six cycles per second appear (163). These paroxysmal slow waves indicate that grand mal seizures may be imminent. Electroencephalograms recorded during grand mal seizures in abstinence from barbiturates are identical with those obtained from individuals during seizures of idiopathic grand mal epilepsy. Following seizures due to abstinence from barbiturates, large slow "stupor" waves (1 to 6 cycles per second) are seen. Following the convulsive phase of withdrawal, increased percentages of waves with frequencies of six to seven cycles per second persist for about two weeks. One month after the beginning of withdrawal, the electroencephalograms are indistinguishable from electroencephalograms obtained prior to chronic barbiturate intoxication.

Psychological studies during chronic barbiturate intoxication.—Sargant (190) found that 0.065 to 0.195 gram of sodium amytal reduced the average intelligence quotients of 103 soldiers about 4 percent. The reduction was slightly less than that obtained with 20 cc. of absolute alcohol. Isbell *et al.* (163) and Kor-

netsky (165) found marked deterioration in the ability of former morphine addicts to perform psychometric tests after the administration of 0.4 to 0.7 gram of either pentobarbital or seconal or 0.9 to 1.2 grams of amytal. During chronic intoxication with barbiturates, a marked decline in the ability of the subjects to carry out a simple digit-symbol test was observed. As the experiment proceeded, the performance on this test improved but learning may have contributed significantly to the improved performance. Changes in projective tests (Bender-Gestalt, "Draw-a-Man" and Rorschach) all indicated accentuation of the basic personality characteristics of the subjects during maintained intoxication. After the acute withdrawal symptoms subsided, the results obtained with all types of psychological tests rapidly returned to the levels observed prior to chronic barbiturate intoxication.

Mechanism of abstinence from barbiturates.—This is practically an untouched field and very little information is available. Schültz (195, 196) reported that the serum cholinesterase content was decreased during continued administration of barbiturates to epileptic patients. He postulated that the decrease of cholinesterase in the serum reflected a similar decrease in the nervous tissue and attributed the occurrence of convulsions during withdrawal to an increased tissue content of acetylcholine. Isbell *et al.* (163), using different analytical methods, were unable to demonstrate any depression of the serum cholinesterase or any increase in the amount of acetylcholine in the serum of individuals who were either chronically intoxicated with barbiturates or were undergoing withdrawal. It should also be pointed out that serum cholinesterase is chiefly pseudo-cholinesterase and its physiological significance is unknown. Moreover, it is not justifiable to assume that a depression of the cholinesterase activity of the serum reflects a change in the tissue cholinesterase concentration.

The pathological studies of Mott, Woodhouse and Pickworth (173) suggest that the barbiturate abstinence syndrome is due to pathological changes in the nervous system. As mentioned above, these authors found that chronic barbiturate intoxication is associated with the presence of abnormal mucinoid matrial which is widely distributed throughout the central nervous system. Apparently the amount of the mucinoid material decreases rapidly following withdrawal of barbiturates from cats and monkeys. Further pathological investigations will have to be undertaken to establish or disprove this hypothesis.

Relationship of barbiturate addiction to other intoxications.—The clinical manifestations of abstinence from barbiturates are strikingly similar to those of alcoholic delirium tremens (139, 142, 143, 164, 181). Similar abstinence syndromes have been described following withdrawal of chloral or paraldehyde from individuals chronically poisoned with those drugs (139, 164, 180). This suggests that delirium tremens is not a symptom complex which is specific for alcoholism but is a condition which can arise after long intoxication with hypnotics of diverse chemical structure. If this is true, the constellation of symptoms known as delirium tremens must be based on some action which these drugs possess in common.

Treatment of chronic barbiturate intoxication.—Abrupt withdrawal of barbiturates from individuals chronically intoxicated with those drugs is absolutely contraindicated (61, 180–212). Even rapid reduction of the dose is dangerous since withdrawal phenomena may appear if the dosage is suddenly reduced to 50 percent or less of that which the individual is accustomed to taking. The first point in treating chronic intoxication with barbiturates is to determine the dosage of any barbiturate which will maintain the patient in a mild state of continuous intoxication. Usually 0.2 to 0.3 gram of pentobarbital four times daily will accomplish this purpose. After this "stabilization" dose has been determined, barbiturates should be withdrawn very gradually. Dosage of barbiturates should not be reduced more than 0.1 gram per day and, occasionally, reduction should be stopped for periods of three or four days. The appearance of anxiety, weakness, and insomnia indicate that reduction should be stopped and the patient maintained on the dosage level at which the symptoms appeared for several days. It usually requires 14 to 21 days to withdraw barbiturates safely. Withdrawal of barbiturates and analgesics can be conducted simultaneously without increasing the danger of appearance of signs of abstinence from barbiturates. Whether anticonvulsants or hypnotics other than barbiturates are of value in withdrawing patients from barbiturates has not yet been determined.

After withdrawal of barbiturates is completed, the rehabilitative and psychotherapeutic treatment is identical with that for morphine addiction. There is no information available on the long-range results of the treatment of chronic barbiturate intoxication. The same tendency to relapse, which is characteristic

of addiction to opiates and alcohol, is present in addiction to barbiturates so that the prognosis must be guarded.

SUMMARY

Drug addiction is a condition in which an individual has lost the power of self-control with reference to a drug and abuses the drug to such an extent that the individual, society, or both are harmed. Dependence, either physical or psychic, is not an essential feature of drug addiction.

The most important factor which predisposes to drug addiction is a personality disorder. In addition to the personality disorder, contact with a drug which produces mental reactions that are regarded as pleasurable is necessary. Contact with the drug as a result of curiosity about the pleasurable effects is a much more potent factor in inducing addiction than is contact as a result of legitimate medical administration.

Animal methods have only a limited place in determining the addiction liability of new drugs. Dogs and monkeys are the best species to use for such experiments. The final determination of the addiction liability of any new analgesic drug is dependent upon experimentation or clinical observations with human beings.

There is no drug in the morphine series which is known to be an effective analgesic that does not also possess addition liability. The addiction liabilities of compounds of the morphine series generally parallel the analgesic potencies of the drugs. However, it is possible that some separation of addiction liability and analgesic potency has been achieved in the compound 6-methyldihydromorphine. N-allylnormorphine does not produce physical dependence in man, but it is not known whether this drug is an effective analgesic.

There are also no known compounds in either the meperidine or methadone series which do not possess addiction liability. Addiction to meperidine is fairly common and physical dependence can be developed in individuals who have never been previously addicted to any other analgesic drug. Addiction to meperidine, because of the toxic effects of the drug, is more undesirable than addiction to morphine.

Recent neurophysiological investigations have shown that the spinal cord, and probably other parts of the central nervous system, are involved in physical dependence on morphine. Physical dependence is not entirely due to changes in the autonomic nervous system.

The theory that the manifestations of abstinence are due to the stimulant effects of morphine outlasting the depressant effects is probably not tenable. The most satisfactory theory of dependence at the present time is that certain homeostatic responses, which oppose some of the actions of morphine, are enhanced by repeated administration of the drug. When morphine is withdrawn, these enhanced physiological counterresponses are still operative and, therefore, signs of abstinence appear. The mechanisms responsible for the enhancement of the homeostatic responses are unknown.

During addiction to morphine and other analgesics, the electroencephalogram is characterized by general slowing. Following withdrawal the electroencephalogram returns to normal.

It has not been established that partial tolerance to certain actions of morphine persists for long periods of time following withdrawal of the drug. Furthermore, it has not been established that individuals who have been addicted to one analgesic drug will develop physical dependence on another analgesic drug any more rapidly than a comparable individual without addiction experience.

There is no real evidence that addiction to morphine produces permanent anatomical damage to the central nervous system. Morphine addiction does not produce any permanent impairment of intelligence.

Treatment of morphine addiction involves withdrawal of the drug followed by a long period of rehabilitative and psychiatric therapy. Withdrawal of morphine is very easy to accomplish provided adequate environmental control of the addict can be achieved. The best and only rational method of withdrawal consists of the administration of decreasing doses of either morphine or some equivalent drug. The results of treatment of addiction, although not completely satisfactory, are much better than is commonly thought.

Barbiturates are addicting drugs no matter how the word addicting is defined. In fact, addiction to barbiturates is far more dangerous and harmful than is addiction to morphine or other analgesic drugs. Barbiturate addiction is apparently increasing in the United States.

The clinical picture of chronic barbiturate intoxication resembles that of chronic intoxication with alcohol and is characterized by impairment of mental ability, impairment of emotional control, psychic regression and dangerous neurological symptoms.

Withdrawal of barbiturates from individuals chronically intoxicated with those drugs is followed by a very definite and severe type of abstinence syndrome which is characterized chiefly by the appearance of convulsions and delirium.

Physical recovery from chronic barbiturate intoxication in man is, so far as can be judged by clinical and psychological examination, complete unless the addict incurs an accidental injury during chronic intoxication or during a convulsion in withdrawal.

The barbiturate abstinence syndrome has been produced experimentally in dogs.

Chronic barbiturate poisoning in animals is accompanied by definite pathological changes in the central nervous system.

The mechanism of symptoms of abstinence from barbiturates is unknown.

Treatment of chronic barbiturate intoxication consists in a very careful gradual withdrawal of the drug followed by a long period of rehabilitative and psychiatric therapy.

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Part II. Barbiturates

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Chronic Barbiturate Intoxication

An Experimental Study; Harris Isbell, M. D., Sol Altschul, M. D., C. H. Kornetsky, A. B., A. J. Eisenman, Ph.D., H. G. Flanary, M. S., and H. F. Fraser, M. D., Lexington, Ky.

In recent years abuse of barbiturates has become a problem of increasing concern to physicians, various lay groups, law enforcement officers and legislators. The production of barbiturates has steadily increased and now appears to exceed greatly the amount needed for therapeutic purposes.[1] In 1948 the total production of barbiturates in the United States was 672,000 pounds (336,000 Kg.), an amount roughly equivalent to 3,057,730,000 capsules or tablets of 0.1 Gm. each, or approximately 24 doses for each person in the United States. Acute intoxication with barbiturates accounts for about 25 per cent of all patients with acute poisoning admitted to general hospitals[2]; and more deaths are caused by barbiturates, either accidently ingested or taken with suicidal intent, than by any other poison.[3] Various articles in the lay press[4] have attributed automobile accidents and various

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Source: From the Research Division, United States Public Health Service Hospital.

[1] United States Tariff Commission: Synthetic Organic Chemicals Production and Sales, Washington, D. C., United States Government Printing Office, 1948.

[2] Goldstein, S. W.: Barbiturates: A Blessing and a Menace, J. Am. Pharm. A. (Scient. Ed.) 36: 5 (Jan.) 1947. Rubitsky, H. J., and Myerson, R. M.: Acute Phosphorous Poisoning, Arch. Int. Med. 83: 164 (Feb.) 1949.

[3] Barbiturates Leading Cause of Fatal Accidental Poisoning, Statist. Bull. Metrop. Life Insur. Co. 29: 7 (Aug.) 1948. Accident Fatalities in the United States, 1946, Vital Statistics Special Reports, National Summaries, Federal Security Agency, United States Public Health Service, National Office of Vital Statistics, vol. 29, no. 15, 1949. Trichter, J. C.: Control over the Distribution of Barbiturates and Their Public Health Importance, J. Quart. Bull. A., Food and Drug Officials 9: 127, 1946.

[4] Carlisle, N., and Carlisle, M.: Thrill Pills Can Ruin You, Collier's 123: 20 (April 23) 1949. Werble, W.: Waco Was a Barbiturate Hostpot, Hygeia 23: 432 (June) 1945. Stone, W. J.: 1,250,000,000 Doses a Year, ibid. 20: 662 (Sept.) 1942.

crimes to barbiturate intoxication and have also stated that illegal trafficking in barbiturates is being carried on by unscrupulous pharmacists and by drug peddlers or "goof ball" salesmen. The seriousness of the situation is reflected by the large number of states which have passed laws regulating the sale of barbiturates[5] and by the continuing agitation for Federal control of barbiturates.

Practically all the lay articles and most of the medical articles which have appeared in the American literature have been concerned with acute barbiturate poisoning, and only a relatively small number of articles have dealt with chronic barbiturate intoxication.[6] In general, the latter agree that the signs and symptoms of chronic barbiturate intoxication include somnolence; confusion; ataxia in gait and station; nystagmus; dysarthria; dyssynergia; hyperreflexia; adiadokokinesis; coarse tremors of tongue, lips and fingers; increased emotional instability, and occasionally a psychosis characterized by disorientation and unorganized delusions of paranoid type. Although these articles do not mention the appearance of signs of abstinence on withdrawal of barbiturates, some of the authors[7] have termed the condition barbiturate "addiction."

A large number of papers[8] and one monograph[9] dealing with chronic barbiturate intoxication and with withdrawal of barbiturates have appeared in the German literature. All these articles agree that abrupt withdrawal of barbiturates from chronically intoxicated persons may be followed by the development of convulsions or a psychosis or both. The German authors have all been impressed with the resemblance of the disturbance following withdrawal of barbiturates to alcoholic delirium tremens. It is strange, in view of the remarkably clear descriptions of the barbituate withdrawal syndrome by these German writers, that the condition should so long have escaped notice in the United States. Since 1940, however, the occurrence of convulsions following withdrawal of barbiturates has been described in a number of articles in the American literature,[10] but the development of a psychosis, although mentioned by Stone[6i] and by Osgood[10d] has received little attention.

Since 1941 an increasing number of persons with addiction to morphine who were also taking large amounts of barbiturates (usually pentobarbital, secobarbital [seconal® sodium; sodium 5-allyl-5-(1-methylbutylbarbiturate)] or amobarbital sodium [amytal® sodium; sodium isoamylethylbarbiturate]) have been admitted to the United States Public Health Service Hospital at Lexington, Ky. In many instances, if barbiturates were abruptly withdrawn from these patients, or if the dose of barbiturates was suddenly reduced to 50 per cent or less of the amount the patient was accustomed to taking, convulsions and/or psychosis occurred. Even though this clinical experience was in agreement with that reported in the literature, it was impossible from the clinical data to determine whether or not the phenomena observed were actually due to the withdrawal of barbiturates.

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[5] Fischelis, R. P.: A Review of the Present Status of Barbiturate Regulation, J. Am. Pharm. A. 35: 193 (July) 1946.

[6] (*a*) Curran, F. J.: The Symptoms and Treatment of Barbiturate Intoxication and Psychosis, Am. J. Psychiat. 95: 73 (July) 1938; (*b*) Current Views on Neuropsychiatric Effects of Barbiturates and Bromides, J. Nerv. & Ment. Dis. 100: 142, 1944. (*c*) Work, P.: Barbital (Veronal) Addiction, Arch. Neurol. & Psychiat. 19: 324 (Feb.) 1928. (*d*) Sands, I. J.: Barbital (Veronal) Intoxication, J. A. M. A. 81: 1519 (Nov. 3) 1923. (*e*) Ashworth, N. C.: Injurious Effect of Veronal and Related Drugs and Suggestion for More Restricted Use, South. M. J. 22: 813 (Sept.) 1929. (*f*) Robinson, G. W.: Addiction to Barbituric Acid Derivatives, J. Missouri M. A. 34: 374 (Oct.) 1937. (*g*) Observations on Addiction to Barbituric Acid Derivatives, ibid. 36: 490 (Dec.) 1939. (*h*) Wagner, C. P.: Barbiturate Addiction: A Report of the Study Made by the Society's Committee on Drug Addiction, Connecticut M. J. 6: 124 (Feb.) 1942. (*i*) Stone, C. W.: Some Undesirable Effects from the Prolonged Use of Barbiturates, Ohio State M. J. 32: 209 (March) 1936. (*j*) Ashworth, W. C.: The Injurious Effects of Veronal and Related Drugs and a Suggestion for Their More Restricted Use, South. Med. & Surg. 98: 592 (Nov.) 1936. (*k*) Moersch, F. P.: The Abuse of Sedative Drugs in the Practice of Medicine, M. Clin. North America 30: 879 (July) 1946.

[7] Work,[6c] Sands,[6d] Robinson,[6f, g] Wagner.[6h]

[8] (*a*) von Muralt, L.: Ein Fall von akuter Psychose bei chronischer Trional-Veronal-Vergiftung, Ztschr. f. d. ges. Neurol. u. Psychiat. 22:122, 1914. (*b*) Schneider, K.: Ein Veronaldelirium, Gerichtl. Med. 72:87, 1915. (*c*) Pohlisch, K.: Ueber psychische Reaktionsformen bei Arzneimittelvergiftungen, Monatsschr. f. Psychiat. u. Neurol. 69:351, 1928. (*d*) Schubert, H.: Zur Frage des Schlafmittelmissbrauches, Med. Welt 11:47 (Jan. 9) 1937. (*e*) von Bussow, H.: Beobachtungen an einem Phanodormdelir, Nervenarzt 8:362, 1935. (*f*) Dorries, H., and Langelüddeke, A.: Weitere Beobachtungen über Phanodormpsychosen und Phanodormsucht, Ztschr. f. d. ges. Neurol. u. Psychiat. 154:658, 1936. (*g*) Busche, K. H.: Phanodormsucht mit psychischen Störungen, Inaug. Dissert., Erlangen, K. Dörres, 1937. (*h*) Meerloo, A. M.: Slaapmiddelzucht en slaapmiddelvergiftiging, Nederl. tijdschr. v. geneesk. 81:668 (Feb. 13) 1937. (*i*) Schmidt, G.: Erscheinungen bei Luminalentzug, München. med. Wchnschr. 85:1944 (Dec. 16) 1938. (*j*) Meyer, H. J.: Ueber chronischen Schlafmittelmissbrauch und Phanodormpsychosen, Psychiat-neurol. Wchnschr. 41:275 (June 17) 1939. (*k*) Raithel, W.: Beobachtungen bei plötzlichem Luminalentzug, ibid. 41:484, 1939.

[9] Pohlisch, K., and Panse, F.: Schlafmittelmissbrauch, Leipzig, Georg Thieme, 1934.

[10] (*a*) Dunning, H. S.: Convulsions Following Withdrawal of Sedative Medication, Internat. Clin. 3:254, 1940. (*b*) Kalinowsky, L. B.: Convulsions in Nonepileptic Patients on Withdrawal of Barbiturates, Alcohol and Other Drugs, Arch. Neurol. & Psychiat. 48:946 (Dec.) 1942. (*c*) Brownstein, S. R., and Pacella, B. L.: Convulsions Following Abrupt Withdrawal of Barbiturate: Clinical and Electroencephalographic Studies, Psychiatric Quart. 2:112 (Jan.) 1943. (*d*) Osgood, C. W.: Convulsive Seizures Following Barbiturate Withdrawal, J. A. M. A. 133:104 (Jan. 11) 1947.

The histories of these patients are unreliable with respect to dose because of deliberate exaggeration of the amount taken, as well as the patient's inability to recall the amount used on account of the drunkenness and confusion produced by the drug. Since all the cases represented a mixed addiction to morphine and barbiturates, and frequently to alcohol and other drugs as well, the possibility that the convulsions and psychoses were due to poisoning or to the withdrawal of a combination of drugs could not be excluded. Most of the patients were emaciated and malnourished, so that it seemed possible that malnutrition might play a role in the genesis of symptoms. The majority of the patients received some barbiturates, and withdrawal of morphine was carried on simultaneously with that of the barbiturates, so that it was impossible to separate symptoms and changes in behavior due to abstinence from barbiturates from those due to abstinence from morphine. Since the physical and mental state of the patient prior to chronic intoxication with barbiturates was unknown, it was difficult to determine whether the development of convulsions and psychoses was dependent on an underlying psychotic or epileptic diathesis or whether any permanent physical and mental state of the patient prior to chronic intoxication. These difficulties in interpreting the clinical data apply to the cases reported in the literature, as well as to the cases studied at Lexington.

In order to obtain information concerning the points raised in the preceding paragraph, large amounts of barbiturates were administered for extended periods to volunteers under carefully controlled conditions and then abruptly withdrawn.

EXPERIMENTAL INVESTIGATION

Subjects.—Five men with former addiction to morphine, who were serving sentences for violations of the Harrison Narcotic Act, volunteered to undergo the experiment. They had been completely abstinent from morphine and other drugs for at least three months prior to the experiment. They had no significant physical defects, and all had normal electroencephalograms. They had all served more than one sentence for violation of the Narcotic Act and had long records of alcoholism, delinquency, vagrancy, or antisocial acts. In the past, each had had a psychiatric examination at least once and his condition had been diagnosed as a character disorder (constitutional psychopathic inferiority). These diagnoses were confirmed by other psychiatric examinations before the subjects were accepted for the experiment.

S 1,[11] a white man aged 42, became alcoholic at the age of 22. He had had one attack of delirium tremens, after a prolonged debauch, in 1932. He began the use of morphine for the relief of symptoms following bouts of alcoholism in 1938 and since that time had been treated for addiction to narcotics thirteen times. Since 1946 he had used 0.8 to 1.5 Gm. of pentobarbital daily, in addition to morphine, whenever he was not in an institution. In 1948 he had one convulsion after he had completely abstained from pentobarbital for forty-eight hours. He had never had any other convulsions, and there was no history of epilepsy in his family. No evidence of psychosis was elicited during the psychiatric interview. His Rorschach examination indicated a constricted person with a good grasp of reality, inability to respond affectively to external stimuli and poverty of intellectual function. On the basis of the results of the psychiatric interview and the Rorschach examination, the diagnosis of a character disorder with some anxiety, inadequacy, and dependency was made.

S 2, a white man aged 42, had received several sentences for burglary and for violations of the Narcotic Act. He had used morphine or similar drugs since the age of 18 and had been treated for addiction twelve times. He had never abused alcohol and had taken barbiturates only occasionally. There was no evidence of psychosis and no familial or personal history of epilepsy. The results of his Rorschach examination were consistent with a rigid, extremely constricted person who had a good grasp of reality and little capacity for response to emotional stimuli. The diagnostic impression was that of a character disorder with compulsive features.

P 3, a white man aged 40, had been addicted to morphine fifteen times. He had drunk to excess prior to becoming addicted to morphine but had used barbiturates only occasionally. There was no evidence of psychosis and no history of epilepsy. His Rorschach examination indicated evasiveness, with a great deal of responsiveness to affective stimuli, inability to think analytically, and depressive trends. The

[11] The persons serving as subjects for the experiment are designated by a number. The letter preceding the number indicates the drug the subject was taking, i. e., S for secobarbital, P for pentobarbital, and A for amobarbital.

diagnostic impression was that of a character disorder with dependency, inadequacy, and depressive tendencies.

P 4, a white man aged 48, had led a wandering, vagrant life since the age of 16. He became addicted to morphine at the age of 18, abused alcohol at times but seldom took any barbiturates. His intelligence was low normal (quotient, 81). There was no evidence of psychosis and no personal or familial history of epilepsy. He had been married and divorced three times. His Rorschach examination indicated a constricted person with sparse fantasy life, little affective responsiveness, passivity, and a strong grasp of reality. The diagnostic impression was that of a character disorder with inadequacy.

A 5 was a handsome white man aged 30. His father was alcoholic and abused the patient, as well as his mother and sisters. The patient's mother and father were divorced when he was 17 years of age. Shortly thereafter he was sentenced to six months in a reformatory for seducing a young girl. In the reformatory, he heard about barbiturates and, after discharge, began to take them with alcohol. He had had abrupt withdrawal of barbiturates several times after arrests for being drunk but stated that he did not remember what happened during the withdrawals. He began to use morphine when he was 21 years of age and had been addicted to this drug three times. The patient was always quiet and withdrawn and associated very little with other patients. No evidence of psychosis and no personal or familial history of epilepsy was elicited during psychiatric interviews. His Rorschach examination indicated a self-punitive person, who retreated into fantasy instead of reacting affectively to the external environment. The diagnostic impression was that of a character disorder with schizoid traits.

General Conditions.—The patients were housed in a special ward devoted to clinical investigation and were separated almost completely from contact with other patients in the institution. All drugs were administered orally in the form of 0.1 Gm. capsules or tablets. Two subjects received secobarbital sodium; 2, pentobarbital sodium, and 1, amobarbital sodium. Great precautions were taken to prevent introduction of drugs, other than those prescribed, into the experimental environment. The patients were constantly observed by trained attendants.

Periods.—The experiment was divided into five periods: (1) Preliminary. During this period, physical, psychologic, neurologic and psychiatric examinations were completed, roentgenograms of the chest and skull were obtained, the effects of single doses of the various barbiturates were determined and all preliminary observations were completed. This period lasted fourteen to twenty-one days. (2) Chronic administration. During this period the patients received large amounts of barbiturates daily. The drugs used, the total amounts taken, the total number of days and the dosage schedule are summarized in table 1. (3) Period of withdrawal. Withdrawal of barbiturates was abrupt and complete in all instances. One patient had to be returned to secobarbital on the ninth day of withdrawal, for reasons which will be discussed later. The period of withdrawal covered twelve to thirteen days in the remaining four instances. (4) Recovery. During this period patients no longer resided in the experimental ward but lived in the dormitories. They returned at appropriate intervals for physical, psychologic, psychiatric and neurologic examinations. This period was two months or more in length. (5) Reintoxication. After the period of recovery was completed, 4 of the patients were abruptly placed on the same dosage of barbiturates they were receiving when withdrawal began. This period lasted only two or three days.

Observations.—The following clinical observations were made three times daily after ten minutes of bed rest; rectal temperature, pulse rate, respiratory rate, and blood pressure. The body weight, caloric intake (calculated from tables of food values) and number of hours of sleep were recorded once daily. Once a week the temperature, pulse rate, respiratory rate, blood pressure, and respiratory minute volume (obtained with a standard basal metabolism apparatus with bell filled with oxygen) were determined before and every thirty minutes for five hours after the 9 a. m. dose.

The following neurologic examinations were made once a week during the period of chronic administration of the drug; tests for the patellar, achilles, biceps, triceps deep reflexes, the superficial abdominal and cremasteric reflexes, the Babinski reflex, and the ankle clonus; tests for ataxia in gait and station; finger to nose tests; determination of pupillary reactions; tests for nystagmus; tests for dysarthria, and observations for tremor of the extended hands and fingers. These tests were performed before and every thirty minutes for five hours after the 9 a. m. dose.

The following laboratory examinations were made twice during the preliminary period, once every two weeks during the period of chronic administration and at appropriate intervals during the period of withdrawal: urinalysis; total red, white and differential blood cell counts; hemoglobin determinations; nonprotein nitrogens estimations, thymol turbidity, and cephalin flocculation tests, and serum bilirubin determination. Fasting blood sugars were determined four times during the preliminary period, once every two weeks during the period of chronic administration, daily during the first three days of withdrawal and once every third day during the remainder of the period of withdrawal.

The total, true and pseudocholinesterase contents of the serum were obtained twice during the preliminary period, once a week during the period of chronic administration and during the second and seventh days of withdrawal. The total cholinesterase content was determined according to the method of Ammon,[12] using acetylcholine bromide as the substrate. Pseudocholinesterase was determined by the method of Mendel, Hawkins and Nishikawara,[13] using benzoylcholine chloride as substrate. The value for true cholinesterase was obtained by subtracting the value for pseudocholinesterase from that for total cholinesterase.

Electroencephalograms, recorded by the technic described by Isbell and associates,[14] were obtained several times before and at intervals after single doses of barbiturates during the preliminary period. In the period of chronic administration, electroencephalograms were made weekly before and at appropriate intervals after the 9 a. m. dose. During the first three to seven days of withdrawal, electroencephalograms were made twice daily, and sometimes oftener. Thereafter encephalograms were obtained as indicated.

Electrocardiograms (three standard leads and chest lead CV 4) were obtained once during the preliminary period, once a month during the period of chronic administration, and once during the period of withdrawal.

The 1937 revision of the Stanford-Binet test of intelligence[15] was given once during the preliminary period (form L) and once during the period of withdrawal (form M). The digit-symbol portion of the Wechsler-Bellevue[16] test of adult intelligence was modified by making six sets of alterations in the order of the symbols. Each time the digit-symbol test was administered, the subject received a different key until all six keys had been given, after which the rotation of keys was begun again. The modification was designed to lessen effects of practice. The digit-symbol test, the Bender-Gestalt test[17] and the "Draw a Man" test[18] were given before and approximately one hour after administration of various doses of the different barbiturates during the preliminary period. These three tests were given before and thirty to sixty minutes after the 9 a. m. dose at intervals of three to seven days during the period of chronic intoxication.

During the withdrawal period, the digit-symbol, the Bender-Gestalt and the "Draw a Man" tests were administered every two or three days until the patients reached levels equal to those obtained during the preliminary period. This battery of tests was given once during the period of recovery (at least thirty days after withdrawal began) and was also administered before and thirty minutes after the 9 a. m. dose during the period of reintoxication. The Kohs block[19] and Rorschach tests[20] were administered once during the preliminary period, once before the 9 a. m. dose on the eighteenth day of chronic intoxication and once during the period of recovery—about thirty days after withdrawal began. In addition, the Rorschach test was administered once or twice during withdrawal either on the day following a convulsion or during a psychotic episode.

During the recovery period, all the clinical, psychologic and laboratory tests were repeated once or more, as indicated.

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PRELIMINARY PERIOD

The behavior of the subjects was typical of that of any group of former morphine addicts who are living together in an experimental situation. They cooperated fully in all observations, were neat and clean, helped with the housekeeping duties around the ward, played cards and dominoes and got along well together.

During the latter half of the preliminary period the patients became bored and were anxious to begin the experiment. They tried in various ways to persuade the personnel conducting the study to begin the period of chronic administration of the drugs sooner than had been planned and frequently attempted to obtain morphine as a reward for good behavior.

Two patients, S 1 and P 3, were usually gregarious, talkative and subject to frequent shifts in mood. A 5 was withdrawn, quiet and participated little in games and other social activities. P 4 and S 2, though not withdrawn, talked less and had less pronounced changes in mood than did S 1 and P 3.

Effects of Large Single Doses of Barbiturates.—Twice weekly during the preliminary period, the patients were given single doses of the particular barbiturate they were to receive during chronic administration. Doses of 0.2 to 0.3 Gm. of any of the drugs caused such slight effects that they will be omitted from the discussion. Doses of 0.4 to 0.7 Gm. of either pentobarbital or secobarital sodium, or 0.9 to 1.2 Gm. of amobarbital sodium, produced a marked degree of intoxication. The peak effects were reached approximately thirty, forty-five and ninety minutes after the ingestion of secobarbital, pentobarbital and amobarbital, respectively. Three patients (S 2, P 3 and P 4) became lightly comatose after doses of 0.4 to 0.6 Gm. of secobarbital or pentobarbital sodium. S 1 and A 5 did not lose consciousness even though they received 0.7 and 1.2 Gm. of secobarbital and amobarbital sodium, respectively. All patients had difficulty in thinking and deterioration in their ability in performing the psychologic tests. Nystagmus, incoordination, ataxia in gait and station, dysarthria and coarse tremor of the hands were constantly observed. The pupillary and deep reflexes were little affected. The abdominal and cremasteric reflexes were consistently depressed, and sometimes absent. A transient Babinski sign and ankle clonus were occasionally detected. P 3 and S 2 became garrulous, boisterous and silly; S 1 and A 5 became quiet, seemed depressed and made desperate efforts to suppress signs of intoxication. The behavior of P 4 was not greatly altered. Regardless of the drug used, signs of intoxication began to diminish within two hours after the drug was administered, and after four to five hours all clinical evidence of intoxication had disappeared. The patients slept poorly on the nights following these large doses, and on the subsequent day they were nervous and trembulous and complained of anorexia and headache. They compared these symptoms to a "hang-over" after an alcoholic debauch.

These large doses of barbiturates had very little effect on pulse and respiration rates, respiratory minute volume, blood pressure, and rectal temperature. Such changes as did occur were probably attributable to sedation. Two patients had a periodic type of respiration but continued to maintain their respiratory minute volume at the control level. It was hoped that the data collected on the effects of single doses would be useful in determining whether tolerance developed to any of the effects of the barbiturates during the period of chronic administration.

Owing to the marked cumulation and variation of the effects of the drugs during chronic administration, the data were of little use for this purpose.

CHRONIC ADMINISTRATION OF BARBITURATES

Dosage.—After the preliminary observations had been completed, the patients began to receive barbiturates daily. Initially, 0.2 Gm. was administered every twelve hours, and the number of doses and the amount given per day were cautiously increased until, after fourteen to twenty-one days, the patients were continuously exhibiting signs of mild to severe intoxication. The dose was maintained at the level reached on the fourteenth to the twenty-first day for thirty to fifty-three days, after which the dose of 4 of the subjects were again increased. Patient P 4 was so intoxicated on a total dose of 1.3 Gm. of pentobarbital sodium daily that this level was maintained throughout the experiment. Patient S 1 was unable to tolerate an increase in the dose of secobarbital sodium of from 1.3 to 1.6 Gm. daily; so his dose was reduced to 1.3 Gm. daily for the remainder of the experiment. The dosage schedule during the period of chronic administration is summarized in table 1.

Behavior.—In the early part of the period of chronic administration, when the patients were receiving less than 0.8 gm. of pentobarbital sodium or secobarbital

sodium or less than 2.0 gm. of amobarbital sodium daily, little evidence of intoxication was observed, and the behavior of the patients differed little from that seen during the preliminary period. At first they were elated over starting the experiment, but after a few days they were disgruntled because of the low degree of intoxication. They repeatedly requested a more rapid increase in the dose and tried various schemes designed to achieve this end. After the dose had been raised to more than 0.8 gm. of secobarbital or pentobarbital sodium, or to more than 2.0 gm. of amobarbital sodium, signs of intoxication appeared. As the daily dose approached 1.3 to 1.6 gm. of pentobarbital or secobarbital sodium, or 3.0 gm. of amobarbital sodium, intoxication became severe. Generally, the signs of intoxication were minimal early in the morning and increased throughout the day, reaching maximum intensity after the 11 p. m. dose.

The behavior of the patients was very similar to the behavior of persons intoxicated with alcohol. They neglected their appearance, became unkempt and dirty, did not shave, bathed infrequently and allowed their living quarters to become filthy. They were content to wear clothes soiled with food which they had spilled. All patients were confused and had difficulty in performing simple tasks or in playing cards or dominoes. They became more irritable and quarrelsome. They cursed one another and at times even fought.

TABLE 1.—*Summary of dosage during chronic barbiturate intoxication*

Patient	Drug	Period of drug administration, days	Dose: Grams per day during chronic administration*		Total amount of drug taken, gm.
			1st to 21st day	22d day to end of period	
S 1	Secobarbital (seconal®) sodium	92	0.4-1.3	1.3-1.6	110.1
S 2	Secobarbital sodium	132	0.4-1.6	1.6-1.8	214.3
P 3	Pentobarbital sodium	119	0.4-1.3	1.3-1.8	175.3
P 4	Pentobarbital sodium	144	0.4-1.3	1.3	177.7
A 5	Amobarbital (amytal®) sodium	104	0.4-3.0	3.0-3.8	310.2

*The total daily dose was divided into five doses. At 5 a. m. a small "eye opener" dose of 0.1 to 0.2 Gm. was given, and larger doses were administered at 9 a. m., 2 p. m., 7 p. m., and 11 p. m.

The effects on mood varied from day to day and from patient to patient. S 1, though occasionally euphoric, garrulous and pleasant, was usually depressed, complained of various aches and pains and continually sought increases in medication, although he was so intoxicated that he frequently could not walk. He would weep over his wasted life and the state of his family but never hinted at suicide. He became infantile and persuaded his friend, S 2, to carry him to bed, button his clothes and feed him. S 1 frequently asked to be released from the experiment but would always change his mind within thirty minutes after missing a dose.

P 3 was frequently elated, hyperactive and garrulous. At other times he was depressed, quiet and withdrawn and talked of the joys of death, but when pressed denied suicidal intentions. He continually attempted to obtain increases in medication. Although he always got along well with other patients when not intoxicated, he became involved in three fights and in a considerable number of cursing matches while taking pentobarbital.

A 5 became even quieter and more withdrawn than he was before receiving amorbarbital. He sometimes spent days alone in his room and came out only for meals. He had vague paranoid ideas and stated the belief that the other patients did not like him and that the attends were showing favor to them. He could not play dominoes without becoming involved in altercations. Some evidence suggestive of homosexual trends appeared. He spoke of giving jewelry to a male patient in one of the dormitories and requested permission to visit this person. He wished to have the jewelry back because the patient had "done him wrong." He obtained embroidered doilies, which he stated were given him by other male patients, who had made them. Although he was the neatest and cleanest of the patients prior to receiving medication, A 5 became the most disheveled during chronic intoxication. He frequently made confused attempts to obtain increases in medication and seemed, as did S 1 and P 3, to be motivated by a desire to become completely unconscious.

S 2 and P 4 showed less pronounced changes in behavior. They continued to maintain good relationships with the other patients and with the attendants, and their personal appearance deteriorated less than did that of S 1, P 3 and A 5. At times S 2 became angry with the other subjects because they teased his friend S 1 over his aches and pains and his infantile behavior. Neither 2 S nor P 4 requested increases in medication. The general picture in both these men was that of a person who was drunk and enjoyed it.

When the dose was increased on the seventy-third day of addiction, the changes already described became severer in P 3. A 5 improved, stayed in his room less, cleaned himself up and expressed fewer paranoid ideas. S 1 became so intoxicated when his dose of sec obarbital sodium was increased from 1.3 to 1.6 Gm. daily that he was completely helpless and had to be carried to bed, dressed, fed and nursed continually. When S 1's dose was reduced to the original level of 1.3 gm. per day, he became hostile and paranoid and cursed the attendants and other patients. S 2 was more intoxicated but showed little change in behavior after his dose was raised from 1.6 to 1.8 gm. per day. P 4's dosage was continued at the same level throughout the period of chronic administration.

TABLE 2.—*Results Obtained with Stanford-Binet Intelligence Test in Preliminary and in the Recovery Period*

Subject	Intelligence quotient	
	Preliminary period	Recovery period
S 1	87	88
S 2	93	111
P 3	90	106
P 4	81	82
A 5	114	119

Changes in Psychologic Tests.—Digit-symbol Test: Four of the subjects (S 1, P 3, P 4, and A 5) showed a rapid decline in ability to perform the digit-symbol test as the dose was increased during the first part of the experiment. The low point in efficiency was reached within thirty days after the onset of chronic intoxication. Thereafter, efficiency in performing the test increased. When the doses were increased later in the experiment, efficiency declined. S 1, who had compulsive personality traits, showed a continual increase in ability to perform the digit-symbol test throughout the experiment. Scores after the drug was administered were usually, but not always, lower than the premedication scores. The results, especially the postmedication scores, fluctuated greatly from one administration to the next. These fluctuations were partially correlated with variations in food intake, as will be explained later. The results showed that the speed of eye-hand coordination is greatly impaired by barbiturate intoxication. Since the digit-symbol test correlates well with the Wechsler-Bellevue intelligence test, the results also suggested impairment of over-all intellectual functioning during chronic intoxication. This interpretation is reenforced by the clinical findings and the results of other tests.

Kohs Block Test: Results obtained with the Kohs blocks are shown in table three. Three of the five subjects (S 1, A 5 and P 4) showed a decrease in performance, whereas S 2 and P 3 showed no change or improvement. Had the test been given after the drug had been administered, a much greater deterioration in performance would doubtless have been revealed.

Bender-Gestalt Test: Characteristic changes occurred in the results obtained with this test. They consisted in disturbances in the integration of parts of the gestalt forms into the whole form and of disorientation of the forms with the background. The changes were usually more pronounced after medication, and striking fluctuations in results occurred in the same patient. In general, the changes observed indicate impairment of sensory and motor functions and impairment of ability to organize.

"Draw-a-man" Test: Analysis of the results obtained with this test indicated that chronic barbiturate intoxication did not alter the basic personality of the subject. Changes indicative of loss of conscious control, accentuation of pathologic features already present in the personality and regression to a more primitive level of adaptation were observed. Thus, A5, prior to beginning chronic in-

toxication, drew the female figure unclothed and with abundant hair. The male was drawned clothed. During chronic intoxication, both figures were drawn unclothed. The male figure was given hips of feminine shape, and the hair of the male was similar to that of the female. These changes suggest uncovering of latent homosexual trends and are in accord with the changes observed in the behavior of the patient. The changes observed became more pronounced as chronic intoxication progressed. Differences in the drawings before and after administration of barbiturates were not significant.

TABLE 3.—*Results Obtained with Kohs Block Test in Various Periods of the Experiment*

Subject	Preliminary Period		Period of Chronic Intoxication		Period of Recovery	
	Raw Score	Mental Age*	Raw Score	Mental Age*	Raw Score	Mental Age*
S1	29	10–4	20	9–3	29	10–4
S2	92	15–2	103	16–1	110	16–9
S3	60	12–11	60	12–11	87	14–10
P4	32	10–8	25	9–11	37	11–1
A5	52	12–4	47	11–11	75	14–0

*The first figure in the "Mental Age" columns refers to years; the second, to months.

Rorschach Test: The patterns obtained with the Rorschach test varied little from those obtained in the preliminary period except for a decrease in contact with reality (diminution in percentage of F + responses) in all subjects except A 5.

Neurologic Status.—The neurologic signs observed during chronic administration were similar to those seen after single doses in the preliminary period and included confusion, difficulty in thinking, dysarthria, nystagmus, incoordination, ataxia in gait and station, adiadokokinesis, depression of the superficial abdominal and cremasteric reflexes and peculiar coarse jumping movements of the hands and fingers on extension. The deep reflexes and the pupillary reactions were not altered significantly. The Babinski sign and ankle clonus were occasionally observed in A 5. The neurologic signs were usually detectable, but minimal in degree, before the 9 a. m. dose. They increased in intensity throughout the day and were maximal after the 11 p. m. dose. At this time all the patients would be staggering and unable to walk except by sliding along the walls. In spite of close supervision, they occasionally fell and were injured. S 1 broke two ribs by falling on a chair and lost a finger nail which was caught in a door. P 4 fell and incurred a laceration over his left eyebrow. The patients also tended to be more boisterous and quarrelsome at night, and most fights occurred at that time. It finally became necessary to require all patients to be in bed before the last dose was given and to remain in bed until morning. Great care had to be exercised to prevent patients from smoking in bed and setting fires.

Throughout the period of chronic administration none of the patients showed behavior or symptoms which would be classed as psychotic. They were always oriented in time, place, and person and had no hallucinations or delusions. Occasionally, patients had weird dreams. Near the end of the period of addiction, P 4 dreamed that animals were in his room and the filth was on the floor but, after he was awakened, realized that he had merely had a dream.

Cumulation and Variation of Effects.—Cumulation of effects became pronounced early in the period of chronic administration. During the preliminary period single doses of 0.3 gm. of secobarbital or pentobarbital sodium or 0.6 gm. of amobarbital sodium produced barely discernible effects prior to addiction. During the period of chronic administration these same doses produced severe drunkenness.

The effects of the same dose of any of the barbiturates varied widely from day to day in the same subject. At times 0.3 gm. of secobarbital given at 9 a. m. caused only mild drunkenness in both S 1 and S 2. On other days it produced severe intoxication, and even slight coma. A similar variation in effect was noted after pentobarbital or amobarbital. Investigation revealed that on the days on which severe intoxication occurred the patient ate little breakfast or deferred eating until after the 9 a. m. dose had been given. In further experiments, with single doses and other subjects it was found that a dose which produced only

mild intoxication when administered ninety minutes after a standard breakfast caused severe intoxication, and even coma, if given while the subject was fasting. The patients who were chronically intoxicated were therefore required to eat a full breakfast on test mornings. This reduced the fluctuation in the effects of the barbiturates but did not completely prevent them. Further investigation is required to determine what factors, other than food intake, influence the degree of effect of the barbiturates.

The amount of drug required to produce severe intoxication also varied widely from subject to subject. S 2 was never as drunk as S 1, although he received 0.3 to 0.5 Gm. more secobarbital sodium per day than did S 1 throughout most of the period of chronic intoxication.

Other Changes.—The average rectal temperatures were depressed about 0.1 C. (0.18 F.) during the first three weeks of chronic administration of barbiturates; thereafter, the average rectal temperatures were the same as during the preliminary period, although the daily fluctuations were greater. The pulse rates were elevated about 10 beats per minute throughout the period of addiction. The respiratory minute volume was unchanged, even though periodic variations in rate and depth of respiration were observed when patients were severely intoxicated. The blood pressure was unchanged. The caloric intake was reduced about 10 percent, but the body weight increased about 3 percent. There was surprisingly little effect on sleep. The patients slept only about two hours more daily than in the preliminary period, and this increase was accounted for by longer afternoon naps.

Laboratory Observations.—No significant changes occurred in the constituents of the urine, the hemoglobin level, the total red, white and differential blood cell counts, the nonprotein nitrogen and glucose contents of whole blood, the serum bilirubin levels or the results of the thymol turbidity and cephalin flocculation tests. There were no consistent changes in the levels of total, true and pseudocholinesterase in the serum during chronic administration (or during withdrawal).

Electroencephalograms.—During the first thirty days of chronic intoxication the amplitudes of all waves in the electroencephalogram increased, and the percentage of waves with frequencies of 1 to 6 cycles per second (delta waves) increased. After the first month the slow, or delta, activity almost disappeared and the percentage of waves with frequencies of 15 to 30 cycles per second (beta waves) was greatly increased and the increase in voltage of all waves was maintained (figure, *1*). These changes persisted without change throughout the remainder of the period of chronic intoxication.

WITHDRAWAL SYMPTOMS

During the first twelve to sixteen hours after the last dose of barbiturates had been given, the condition of all 5 patients appeared to improve, confusion lessened and neurologic manifestations almost disappeared. All the patients except S 1 were somewhat depressed and moody. S 1 was euphoric, excited and garrulous at this stage. After the first twelve to sixteen hours the patients began to complain of vague anxiety and increasing weakness. They slept poorly, ate little and exhibited a coarse tremor of the hands and face. Twenty-four to thirty hours after administration of the last dose anxiety became severe and weakness was so great that the patients could hardly stand or walk. They felt faint on standing and preferred to remain in bed. Tremor increased, and fasciculation of isolated muscle groups was seen in 4 of the subjects. They complained of vague abdominal distress, ate little, and 4 vomited. Vomiting was especially severe in P 3. Increased deep reflexes, increased startle responses, mydriasis and swaying on walking or standing because of weakness were also observed. The patients were mentally clear and well oriented and showed no evidence of hallucinations or delusions at this time. Disturbances in making cardiovascular adjustments on standing were noted in S 2, P 3, P 4, and A 5. No observations were made on S 1, and no control readings were obtained prior to chronic intoxication. The changes observed were similar to those seen during and after severe febrile illnesses and consisted in a considerable elevation of the pulse rate, a decrease in systolic blood pressure and either a decrease or an increase in diastolic pressure whenever the patient stood, or even sat up. Some of the observations recorded on A 5 are shown in table 4.

TABLE 4.—*Cardiovascular responses to postural changes in patient A 5**

Period	Day	Lying Down			Standing Minutes																	Lying Down 0-1 Min.		
					0-1			1-3			3-5			5-7.5			7-5.11							
		S	D	P	S	D	P	S	D	P	S	D	P	S	D	P	S	D	P	S	D	P	S	D	P
Withdrawal	4th	112	78	82	X	X	160	X	X	160	Y	Y	Y	Y	Y	Y	Y	Y	Y	Z	Z	Z			
Withdrawal	5th	146	92	100	Z	Z	Z	110	80	156	118	100	108	107	90	154	108	90	156	138	92	80			
Withdrawal	11th	134	82	80	113	83	114	138	100	106	138	98	102	Z	Z	Z	136	100	100	134	90	102			
Recovery	90th	128	82	80	128	84	120	124	92	112	134	95	108	126	96	Z	125	98	120	148	82	72			

*S indicates systolic pressure; D, diastolic pressure; P, pulse rate; X, that blood pressure could not be determined by the auscultatory method; Y, that the patient could not continue standing because of faintness; Z, that no observation was obtained.

Four of the patients had convulsions after the following periods of abstinence: S 1, thirty-nine and one hundred and fifteen hours; P 3, thirty-seven hours; P 4, sixty hours, and A 5, thirty, thirty-three and thirty-nine hours. S 2 did not have a convulsion. Seizures occurred not only when patients were standing but also when they were sitting or lying. They did not recall that convulsions were preceded by an aura. Seizures were typical tonic-clonic type and were clinically indistinguishable from grand mal fits due to diopathic epilepsy. The convulsions were usually over within three minutes. A transient Babinski sign and ankle clonus were detected immediately after the convulsions in S 1 and A 5. The patients were usually conscious within five minutes after the onset of the convulsion. They were confused and disoriented for an hour or so, but prolonged stupor did not occur. The patients did not remember the convulsions and termed the episodes "black-outs."

Sixteen hours after he had received his last dose of amobarbital, A 5 experienced numerous episodes of clonic twitching of the extremities, which could be precipitated by external stimulation, such as loud noises, turning on of lights or a light touch. These were not associated with loss of consciousness. A 5 continued to have these symptoms at frequent intervals until the first grand mal convulsion occurred, after which they disappeared. Between the first and the second grand mal convulsion, S 1 frequently had attacks of athetoid writhing movements of the arms and hands. After the movements started, S 1 would hyperventilate and complain of numbness and tingling of the fingers and toes and of cramps in the muscles. The latter symptoms were probably due to alkalosis, resulting from the hyperventilation. It was difficult to determine whether the episodes in this case represented incomplete seizures or hysterical reactions.

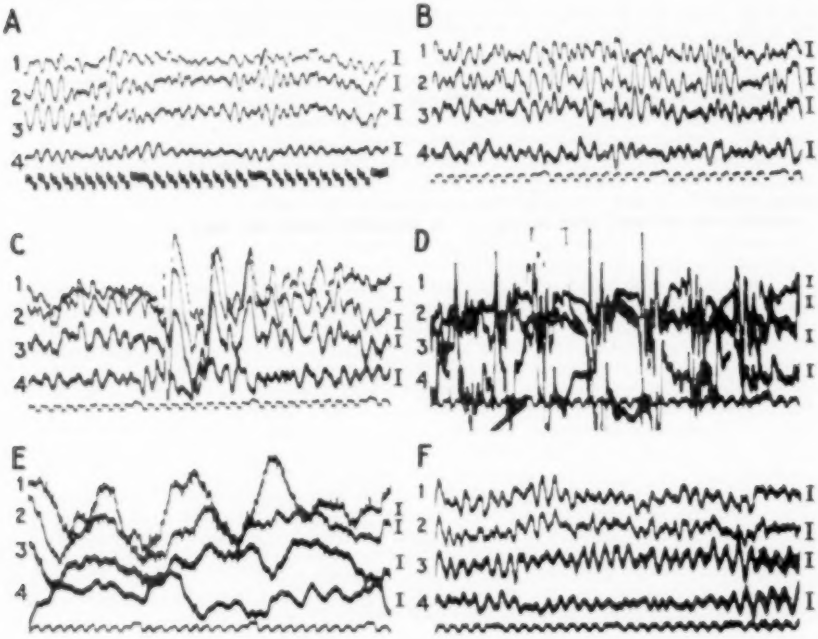
Electroencephalograms During Withdrawal.—During the first twelve to forty-eight hours of withdrawal, paroxysmal bursts of high amplitude, slow waves (4 to 6 cycles per second) appeared in the electroencephalograms of all 5 patients (figure, *D*). The appearance of the paroxysmal slow waves preceded the grand mal seizures. One electroencephalogram was obtained during the clonic phase of a convulsion (figure, *1 D*) and was characterized by bursts of high amplitude, fast waves (spikes of frequencies of 30 to 50 cycles per second). After seizures, slow, "stupor" waves (1 to 6 cycles per second) appeared (figure, *1 E*). Although increased percentages of waves of frequencies of 6 to 7 cycles per second persisted about two weeks, the electroencephalograms rapidly became normal after convulsions ceased. One month after the beginning of withdrawal the electroencephalograms were indistinguishable from those obtained in the preliminary period.

Psychologic Effects.—After grand mal seizures, the patients were usually less apprehensive for a short time. Thereafter, anxiety reappeared and increased, tremor became more prominent, weakness continued, disturbed cardiovascular responses on standing persisted and the patients slept and ate poorly. In A 5 a psychosis did not develop, and his symptoms gradually disappeared over the course of about ten days.

In S 1, S 2, P 3 and P 4 psychoses developed. All these patients experienced insomnia during the twenty-four to forty-eight hours which preceded delirium.

After definite signs of the psychoses appeared, the rectal temperature rose 0.5 to 1.0 C. (0.9 to 1.8 F.), respiration and pulse rates were increased and the blood pressure rose. These changes were most pronounced at the height of delirium, decreased as the psychosis abated and may have been caused by anxiety and restlessness during the psychotic episodes.

During the fourth night of withdrawal, S 1 lay awake giggling in a silly fashion, staring at the walls and talking with nonexistent persons. At this time he was oriented for time, place and person and, despite the unmistakable evidence, denied that he was experiencing hallucinations. During the following day he was very apprehensive and occasionally shouted, "Who's that out there?" or, "Did you call me?" He attempted to wash the walls of the rooms, though he had no water and no washcloth. He continued to be oriented in all spheres. During the fifth night of withdrawal the psychosis became severer. He thought



Effects of chronic pentobarbital intoxication on the electroencephalogram. Monopolar and bipolar recording. All monopolar tracings are from the left side. *1*, frontal to ear lead; *2*, parietal to ear lead; *3*, occipital to ear lead; *4*, occipital to occipital lead.

A, a normal (control) electroencephalogram; *B*, tracing on one hundred and seventh day of intoxication, showing increase in amplitude and beta activity; *C*, tracing thirty-five and one-half hours after withdrawal, showing spikes and paroxepmal slow waves; *D*, tracing thirty-seven hours after withdrawal, showing seizure discharge; *E*, record thirty-seven hours after withdrawal, showing postseizure stupor waves; *F*, record one month after beginning of withdrawal, showing return to the control record.

Calibrations: 23.8 microvolts, except in *D*, in which it is 126.5 microvolts; time is expressed in seconds and tenths of seconds.

that a railroad ran through the ward. He conversed with the trainmen about repairs to the locomotive and made trips to South Carolina with a trainload of goats. On the following day he was still oriented in time, place, and person but was apprehensive and frightened and begged for morphine and barbiturates. He admitted that he had been experiencing hallucinations but appeared to realize that they were imaginary, and not real. During the sixth night of withdrawal he became disoriented in time and place but not in person. He thought that he was in various places in South Carolina and that he was riding trains; he became agitated because he imagined that persons were trying to harm him. He was blown up three times, was cut with knives, etc.; several imaginary persons were murdered during the night; he saw tiny men descending in parachutes; an old woman was perched on the ceiling of the room; shimmering rings of light or smoke which floated in the air went in one of his ears, and he pulled them out

the other ear. He misidentified persons and objects. During the sixth day he was disoriented in time and place but retained his identity. He had visual and auditory hallucinations constantly, was extremely agitated and constantly tried to escape from his imaginary persecutors. He stated the belief that one of the physicians and two of the attendants had done various evil things to him, and he threatened them with bodily harm and prosecution for their crimes. All these symptoms persisted unabated until the ninth night. At that time the patient was very excited; he had a temperature of 38.3 C. (100.9 F.) and a pulse rate of 140. It appeared that he was becoming dangerously exhausted; so withdrawal was terminated. A total of 1.1 Gm. of secobarbital sodium was administered in divided doses before the patient slept. On the following day he was returned to his usual dose of 1.3 gm. daily. Hallucinations occurred at infrequent intervals during the first day after restoration of barbiturate administration. On the second day hallucinations were no longer present, although the patient still believed that the hallucinations he had experienced had been real and asked that the police be called to arrest the persons who had committed the murders. On the third day after being returned to secobarbital medication, S 1 realized that all his experiences were imaginary and was greatly relieved. Secobarbital was very slowly withdrawn during the succeeding thirty-day days, and convulsions and the psychosis did not recur.

The results of a Rorschach test, administered on the third day of withdrawal, showed few quantitative differences from those of the control test except for a decrease in the percentage of F+ responses. Another Rorschach test, administered while the patient was having hallucinations, showed a great increase in the total number of responses. This was due to increases in the number of responses in the large (D) and small (Dd) detail areas. The number of responses scored as human fantasy (M) and animal fantasy (FM) also increased. These changes reflected the psychotic behavior of the patient.

S 2 had no convulsions but slept very little during the third and fourth nights of withdrawal. At 3 a. m. of the fifth day, he awoke and demanded examination by a physician. He said he had "knots" in his head and in his muscles. He expressed the belief that his brain had been jarred loose and dropped down into his body. He wanted an electroencephalogram taken to determine what was wrong. While the electrodes were being attached, he began to laugh, giggle and speak to nonexistent people. Later, he said that the "brain wave" machine had been reversed and had put brain waves into his head, instead of taking them out. This situation was remedied by taking another electroencephalogram. Throughout the day the patient had varied auditory and visual hallucinations. He lay quietly grinning and smiling, staring at the wall and talking to nonexistent persons. When questioned sharply, he appeared startled, stopped watching the wall, answered questions and, superficially, appeared to be well oriented. As he answered questions, his attention would wander, he would stare at the wall and stop talking in the middle of a sentence. He imagined seeing women, men, giants, animals and airplanes. He saw himself, or part of himself, on the wall. When asked how he could be in two places at once, he said, "It is funny; I don't see how it is possible, but it is done by a system. They use pictures." Some of the hallucinations appeared to be sexual. The patient said, "Now he's putting it in her. They're all doing it to her." At times he hyperventilated spontaneously but would stop on command. The hallucinations appeared to become more vivid as the day progressed. When night came, the patient became unresponsive, would not answer questions and appeared to be completely out of contact with reality. He lay on the bed posturing and grimacing and watching the wall. He appeared to be leading a band, using a pocket comb for a baton, and said, "Isn't that beautiful music?" He became wildly excited and beat the bed with his hands and fists. As the night wore on, he began to rave wildly and incoherently. He seemed to be accusing his wife of sexual irregularities and threatening her. He attempted to masturbate but could not obtain an erection or an orgasm, but would urinate and soil himself. The following day he improved somewhat and seemed to be superficially oriented. He spent most of the sixth day of withdrawal watching the walls, laughing, talking to imaginary persons and listening to imaginary music. This behavior continued through the sixth night and through the morning of the seventh day. At noon on the seventh day the patient fell asleep. On awakening, five hours later, he jumped from his bed, eluded the attendants and ran out of the room. He went to the bathroom, washed his face, combed his hair and changed pajamas. He was hostile and belligerent. He seemed to feel that his hallucinations were associated with the room where he had been kept during withdrawal. He bathed several times, changed pajamas repeatedly and

swept the floor. He was allowed to remain in the open ward and after three hours became calm and again slept. On awakening the next morning, he was not experiencing hallucinations, was quiet, oriented in all spheres, but somewhat hostile and withdrawn. He said he had "blown his stack" but that he was better. He described some of the hallucinations he had experienced but did not remember those involving sex. He stated that his hallucinations were caused by control of his thoughts by the attending physicians, who used a movie projector or the "power of suggestion" to accomplish this purpose. The patient slept well on the seventh night, and on the eighth day no evidence of a psychosis was present. He realized that his hallucinations were imaginary and that they were due to a physiologic disturbance precipitated by withdrawal of barbiturates, and not by control of his thoughts by any person.

A Rorschach test administered during the fifth day, while S 2 was experiencing hallucinations, showed a decrease in the total number of responses, failure to make use of small detail areas and very little change in fantasy percepts, despite the fact that he was hallucinating. The results suggest a breaking down of his compulsive, constrictive mechanisms.

The manifestations of the psychosis were much less dramatic in the case of P 3. He slept very little during the fourth and fifth nights of withdrawal and appeared to talk to nonexistent persons. However, he was never disoriented in any sphere and stoutly maintained that he was not experiencing hallucinations. Between the seventh and the twelfth day of withdrawal he slept well and no overt evidence of hallucinations was detected. On the thirteenth and fourteenth days he was very restless and agitated, did not sleep, was confused at times and talked to nonexistent persons. He remained oriented in all spheres and continued to deny the presence of hallucinations. On the fifteenth day, agitation disappeared. He slept through most of the fifteenth, sixteenth, and seventeenth days, and no further evidence of a psychosis was observed. About a month later, P 3 admitted having both auditory and visual hallucinations during withdrawal.

A Rorschach test obtained on the third day of withdrawal showed perseveration with an increase in the percentage of animal percepts. An increase in responsiveness to color indicated heightened emotionality. No Rorschach test was obtained during the time when hallucinations were probably present.

Immediately after the convulsion, which occurred at the sixtieth hour of withdrawal, P 4 was confused and disoriented in time and place but not in person. He thought that he was in various towns in Oklahoma, Texas and New Jersey and that it was July instead of June. He was able to identify persons and objects correctly. He stated that someone was poisoning him with atropine. During the third night of withdrawal he was completely disoriented and would not answer questions. He lay quietly, stared at the wall and held unintelligible conversations with imaginary persons. He masturbated twice during the night. During the fourth day, he was very quiet, regained his orientation, was somewhat confused and was reluctant to talk about his hallucinations. Thereafter, P 4, though weak and tremulous, did not appear to be psychotic and improved rapidly. By the tenth day of withdrawal, he was willing to describe some of his hallucinations, which included small persons, animals, snakes and absent persons.

A Rorschach examination, obtained on the third day of withdrawal of the drug, when the patient was overtly psychotic, showed a decrease in form control responses (F+), an increase in the number of animal responses (A), no increase in human (M) or animal fantasy (FM) responses and a decrease in ability to organize.

Although A 5 had three grand mal seizures, no evidence of a psychosis was detected. He was confused and disoriented for an hour or so after the convulsions occurred but did not show any evidence of hallucinations or delusions. He improved rapidly, and ten days after the beginning of withdrawal he seemed completely well.

The results obtained with the Bender-Gestalt, "draw-a-man" and digit-symbol tests all returned to the levels seen during the preliminary period within sixteen days after withdrawal began, except in the case of S 1, who had to be returned to administration of barbiturates on the ninth day of withdrawal.

Laboratory Observations During Withdrawal.—No significant changes occurred in the red blood cell count, hemoglobin level or results of the hepatic function tests during withdrawal. All patients had a mild hyperglycemia, which was most pronounced during the psychotic phase. The nonprotein nitrogen content of the blood of S 1 and P 3 was 54 and 53 mg., per hundred cubic centimeters, respectively, on the third day of withdrawal. The highest values observed for S 2 and P 4 were 42 and 43 mg., respectively, per hundred cubic centimeters. Albumin

and hyaline casts were present in the urine of P 3 on the third and fourth days of withdrawal. No other significant changes were observed in the urine of any of the other patients. There was a tendency for the total white blood cell count to increase during the first seven days of withdrawal. The highest count (S 2), of 14,600 cells per cubic millimeter, was obtained during the seventh day of abstinence.

RECOVERY

All the patients recovered completely. From sixty to ninety days after withdrawal was begun, no evidence of residual damage could be detected by physical, psychiatric, laboratory or psychologic examinations (tables 2 and 3). Weakness, which was the chief symptom at the end of the period of withdrawal, gradually disappeared, and six to twelve weeks after withdrawal began all patients felt as well as they did before beginning the experiment.

REINTOXICATION

Sixty to ninety days after withdrawal began, 4 patients (S 2, P 3, P 4 and A 5) were abruptly placed on the same dosage barbiturates they were receiving when withdrawal began. S 1 had insufficient time remaining prior to his discharge from the institution to permit his use as a subject in this phase of the experiment. Reintoxication was carried out to determine whether the patients could tolerate the maximum dose of barbiturates they had received during chronic administration without approaching that dose gradually. All 4 patients became so intoxicated during the first twenty-four hours that the experiment had to be terminated. The degree of intoxication, as judged by observations on behavior, changes in neurologic status and psychologic tests, was far greater than at any time during chronic administration. In fact, it would have been dangerous to the lives of these subjects to continue administration of barbiturates at the same dosage they had attained during chronic intoxication.

COMMENT

It is obvious that chronic barbiturate intoxication is a dangerous and undesirable condition, which is very similar to chronic alcoholism. Persons who take large amounts of barbiturates are confused, are unable to think clearly and have poor judgment. Their emotional control is impaired, and pathologic features in their personalities are accentuated; they become hostile, and even assaultive, over fancied insults or minor incidents, and they regress and behave like small children. At times they are so depressed that suicide becomes a distinct possibility. Because of the motor incoordination produced by the barbiturates, patients frequently fall and may be seriously injured. They also are likely to fall asleep while smoking and set serious fires. They are unable to work and would be a serious menace if they attempted to drive automobiles. The judgment of persons taking large amounts of barbiturates is so impaired that they are likely to take additional doses of the drugs, even though they are already dangerously intoxicated. This could easily lead to an overdose and to death. It is possible that many deaths from barbiturate intoxication which are recorded as suicides are involitional and may represent superimposition of acute barbiturate poisoning on a preexisting chronic intoxication.

Owing to the wide fluctuation of effects from day to day during chronic administration of barbiturates, it was difficult to determine whether any significant degree of tolerance had developed. When the men were abruptly placed on the same dosage of barbiturates they had been receiving prior to withdrawal, they became much more intoxicated than at any time during chronic administration. It seems clear, therefore, that some tolerance was acquired. The degree of tolerance to the barbiturates is, however, not nearly so great as is tolerance to morphine.

The results confirm the literature respecting the occurrence of convulsions and psychoses following abrupt withdrawal of barbiturates from persons chronically intoxicated with these drugs. In the light of the present experiment, these symptoms cannot be attributed to a combination of intoxications, to malnutrition or to a combination of intoxications and malnutrition. Furthermore, the occurrence of convulsions following withdrawal of barbiturates is not dependent on the existence of an epileptic diathesis. None of these subjects had any personal or family history of epilepsy, and all had normal electroencephalograms. The results of my associates and myself with respect to the serum cholinesterase

content are at variance with those of Schütz,[21] who reported depression of the serum cholinesterase level during chronic administration of barbiturates and attributed the occurrence of convulsions to a resultant accumulation of acetylcholine. Schütz used a titrimetric method for determination of the total serum cholinesterase content, whereas we employed a manometric method. Whether the difference in results is due to a difference in methods used is unknown. The results also show that during abstinence delirium develops in persons who had never been psychotic prior to chronic intoxication with barbiturates. Although the number of cases is too small to permit one to draw conclusions, it is interesting that the psychoses were severer in the 3 subjects (S 2, S 1 and P 4) who, according to their Rorschach examinations, had a great deal of constricted, nonemotional type of responsiveness; and, on the other hand, psychoses did not occur or were mild in the 2 subjects (A 5 and P 3) who were much less constricted and responded affectively or with fantasy. The experiment suggests that if a psychosis develops during withdrawal of barbiturates, the manner in which the patient reacts to his psychosis may be related to his basic personality structure. Thus, S 1, who was an anxious hysterical person, was greatly agitated and apprehensive while he was hallucinating, whereas P 4, who had very little anxiety, was not agitated during the delirium.

The opinion, which has been widely held, that abrupt withdrawal of barbiturates is not followed by untoward symptoms [22] is not tenable. Convulsions and psychoses did not occur in any of our patients until the drug was withdrawn. This result is in accord with our clinical experience. We have never seen convulsions and/or psychoses develop in persons addicted to barbiturates unless the drug was abruptly withdrawn or suddenly reduced to 50 per cent or less of the dose the patient was accustomed to take. Like the state following withdrawal of morphine, the withdrawal of barbiturates produces a clear-cut clinical entity, which follows a definite pattern and runs a definite course. The barbiturate withdrawal syndrome might be defined as a disorder due to sudden reduction in the dose of barbiturates which a person chronically intoxicated with those drugs is accustomed to take, and which is characterized by weakness, anxiety, anorexia, insomnia, tremor, disturbances in cardiovascular adjustments on standing, convulsions, slight fever, and a psychosis. One can surmise, since patients recover completely, that the barbiturate withdrawal syndrome is due to a reversible disturbance in the central nervous system, and not to permanent anatomic changes.

The development of signs of abstinence on withdrawal of the drug is not a characteristic which is specific for any particular barbiturate. In our experiment, convulsions occurred in patients who had received amobarbital, pentobarbital or secobarbital, and psychoses were observed after the withdrawal of pentobarbital and secobarbital. Reports in the literature show that convulsions or a psychosis or both have occurred after withdrawal of barbital, phenobarbital, pentobarbital, amobarbital and cyclobarbital (phanodorn). Whether the syndrome is more easily produced and is severer after intoxication with any particular barbiturate is unknown, although Pohlisch and Panse [9] found that psychoses occurred more frequently after withdrawal of cyclobarbital than after withdrawal of barbital or phenobarbital.

The similarity of the barbiturate withdrawal syndrome to alcoholic delirium tremens is striking and has been commented on by various observers, notably Kalinowsky,[10b] Pohlisch and Panse [9] and Meyer.[8j] In both conditions, weakness, tremors, anxiety, insomnia, convulsions and a psychosis are prominent features. In both, the psychosis is preceded by insomnia and is characterized by disorientation in time and place but not in person, by hallucinations which are predominantly visual, by a tendency for the psychosis to begin and to become worse at night and by rapid improvement, which occurs after return of the ability to sleep. Similar clinical pictures have been described after withdrawal of chloral or paraldehyde from patients chronically intoxicated with these drugs.[23] It is likely that delirium

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tremens is not a syndrome which is caused by chronic alcoholic intoxication only, but represents a physiologic derangement which may follow chronic intoxication with a variety of hypnotic drugs. If this is true, it should be possible to substitute one hypnotic drug for another without signs of withdrawal appearing, just as methadone, a drug which has pharmacologic actions similar to those of morphine, can be substituted for morphine without signs of withdrawal appearing. The possibility of substitution of one drug for another, as Kalinowsky [10b] pointed out, may explain why delirium tremens rarely occurs after abrupt withdrawal of alcohol from patients whith chronic alcoholism in hospitals, since such patients are almost universally given some hypnotic medicament, most frequently paraldehyde, which is then usually slowly withdrawn.

The barbiturates are addiction forming in every sense of the word. Prolonged use causes great harm to the user and to society. Although the degree of tolerance is less in barbiturate intoxication and the manifestations of physical dependence on barbiturates are different from those of dependence on morphine, the phenomena characteristic of addiction to the opiates—habituation, or emotional dependence, tolerance and the appearance of signs of abstinence after withdrawal of the drug—are all present with chronic barbiturate intoxication.

The manifestations of chronic barbiturate intoxication are, in most ways, much more serious than those of addiction to morphine. Morphine causes much less impairment of mental ability and emotional control and produces no motor incoordination. Furthermore, such impairment as does occur becomes less as tolerance to morphine develops, and withdrawal of morphine is much less dangerous than is withdrawal of barbiturates.

SUMMARY AND CONCLUSION

Five men formerly addicted to morphine, who volunteered for the experiment, received doses of secobarbital (seconal®), pentobarbital or amobarbital (amytal®) sufficiently large to induce continuous mild to severe intoxication for periods varying from ninety-two to one hundred and forty-four days.

Symptoms of chronic barbiturate intoxication included impairment of mental ability, confusion, regression, increased emotional instability, nystagmus, dysarthria, ataxia in gait and station, and depression of the superficial abdominal reflexes. The clinical manifestations of chronic barbiturism were similar to those of chronic alcoholism.

The effects of the same dose of barbiturates varied greatly in the same person from day to day. This variation was partially correlated with changes in food intake. Pronounced differences in the effects of the same dose of barbiturates on different subjects were also observed.

Although the variation in the effects of the drugs made it difficult to determine whether tolerance developed, 4 of the 5 patients, when abruptly returned to the same dose of barbiturates they were receiving at the end of the experiment, became much more intoxicated then they were at any time after attaining the maximum dosage level gradually. Some tolerance, therefore, developed during chronic intoxication.

After abrupt withdrawal of barbiturates, a definite abstinence syndrome developed. The barbiturate withdrawal syndrome was characterized by disappearance of the signs of intoxication, weakness, tremor, great anxity, anorexia, nausea and vomiting, rapid loss of weight, increase in pulse and respiration rates, fever, increase in blood pressure, difficulty in making cardiovascular adjustments in standing, convulsions of grand mal type and the development of a psychosis. The barbiturate withdrawal psychosis resembled alcoholic delirium tremens and was characterized by anxiety, agitation, insomnia, confusion, disorientation chiefly in time and place but not in person, delusions and auditory and visual hallucinations.

No changes were observed in the total, true or pseudocholinesterase contents of serum during chronic intoxication with barbiturates or after withdrawal.

Recovery from chronic barbiturate intoxication and from the barbiturate withdrawal syndrome appeared to be complete. No clinical evidence of permanent damage was detected sixty days or more after withdrawal began.

During chronic barbiturate intoxication, the amplitude of all electroencephalographic waves was increased, and the percentage of waves of frequencies of 15 to 30 cycles per second was greater. After withdrawal of barbiturates, paroxysmal bursts of high amplitude waves of frequencies of 4 to 6 cycles per second appeared in the first twelve to forty-eight hours. Records obtained during and after a convulsion were similar to records of grand mal seizures due to idiopathic epilepsy.

Within thirty days after the barbiturates were discontinued, the electroencephalographic pattern returned to that seen prior to chronic intoxication.

Barbiturates are addiction-forming drugs, and in some respects addiction to barbiturates is more dangerous and undesirable than is addiction to morphine.

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Treatment of Barbiturate Addiction

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[Superior figures apply to references at end of article]

Chronic intoxication with barbiturates, like chronic intoxication with morphine, is a true addiction and sudden withdrawal of barbiturates from persons who have been ingesting large amounts of these drugs for long periods of time results in the appearance of convulsions of grand mal type and of a psychosis which resembles alcoholic delirium tremens.[2,4] Although the barbiturate abstinence syndrome is a self-limited condition which has no permanent physical sequelae,[1, 2, 4] patients may incur serious injuries during either the convulsive or psychotic phases of withdrawal. Proper treatment of barbiturate addiction is, therefore, a matter of considerable importance.

The minimal dosages and the minimal length of time over which barbiturates must be ingested before signs of abstinence occur after abrupt withdrawal have not been exactly established. Except in cases of epilepsy, abrupt withdrawal of barbiturates from persons who have been taking 0.1 to 0.2 gm. of barbiturates over any period of time is not followed by untoward symptoms of any consequence. Sudden withdrawal of barbiturates from epileptics who have been accustomed to the use of 0.1 to 0.3 gm. of pentobarbital daily is likely to precipitate status epilepticus.[5,6]

Clinical experience indicates that abrupt withdrawal of barbiturates from persons who have been using 0.8 gm. or more of any barbiturate daily for as long as two months is very likely to be followed by the appearance of convulsions or a psychosis, or both. Individuals who have been ingesting 0.3 to 0.7 gm. of barbiturates daily may or may not have symptoms following abrupt withdrawal. In such borderline cases, it is wise to proceed cautiously and to avoid the sudden cessation of barbiturate medication.

The treatment of barbiturate addiction, like that of other addictions, can be divided, for purposes of discussion, into withdrawal and rehabilitative phases.

WITHDRAWAL OF BARBITURATES

Withdrawal of barbiturates should always be carried out in a hospital. Like morphine addicts, barbiturate addicts are very clever in obtaining and concealing supplies of drugs; therefore, attempts at withdrawal in the home will usually fail. Moreover, even gradual reduction of barbiturates carries a certain risk so that patients should be under constant supervision and observation during treatment. Patients should be kept in beds with sideboards to prevent them from falling to the floor, in the event convulsions develop, and they should not attempt to walk about unattended. As mentioned later in this discussion, electroencephalographic control is very desirable.

Abrupt withdrawal of barbiturates from addicted persons is contraindicated. Even sudden reduction in the dosage the patient is accustomed to taking may result in the appearance of signs of abstinence. When treatment is begun, the patient should be given an amount of one of the potent short-acting barbiturates sufficient to maintain a mild degree of barbiturate intoxication constantly. This is called the "stabilization dosage." In the average case, 0.2 to 0.4 gm. of pentobarbital every six hours will suffice for this purpose. The dosage of barbiturates should be determined by the signs of the intoxication and not by the patient's history. If the patient shows transient nystagmus on lateral gaze, slight dysarthria, and swaying (but not falling) on the Romberg test, the degree of intoxication is sufficient to prevent the appearance of manifestations of abstinence. If nystagmus is present constantly, dysarthria is marked, and if the Romberg test cannot be performed without falling, the dosage of barbiturates is too great and should be reduced.

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After the stabilization dosage has been determined, barbiturates should be gradually withdrawn. The total daily dosage should not be reduced more than 0.1 gm. per day. When the amount of drug has been reduced to about 50 percent of the stabilization dosage, the reduction should be stopped and the patient maintained at this level for two or three days, after which reduction is begun again. When a level of 25 percent of the stabilization dose is reached, reduction is stopped for two or three days and then begun again. Usually two to three weeks are required before the withdrawal is completed.

If excessive anxiety, insomnia or tremor appears during withdrawal of barbiturates, reduction of the dosage should be stopped and the amount of drug held constant until these symptoms disappear. It is frequently difficult to determine whether such symptoms are manifestations of abstinence from bartiturates or represent phenomena due to the psychiatric disorder which led to the addiction. In the latter case, the symptoms usually are mitigated by strong reassurance.

Patients who are being withdrawn from barbiturates should have electroencephalograms made as frequently as possible, and electroencephalograms should always be obtained if insomnia, anxiety and tremor are present. The appearance of bursts of high voltage slow waves[2] usually precedes the onset of grand mal seizures. If this electroencephalographic pattern is observed during treatment, an extra dose of pentobarbital should be given immediately and reduction of the dosage stopped until the high voltage slow waves have disappeared.

It is important to remember the acute barbiturate intoxication is frequently superimposed on barbiturate addiction. After patients who have been acutely poisoned with barbiturates have recovered from coma, it should be ascertained whether they have been taking the drugs chronically. In such cases, barbiturate intake should be restored and gradual reduction begun as outlined.

If the diagnosis of barbiturate addiction is made after the major manifestations of convulsions and/or a psychosis have appeared, barbiturates should be given at once. Sodium pentobarbital, 0.5 gm. intravenously, will usually terminate the convulsions. The patient can then be placed on a regular schedule of orally administered barbiturates. The psychosis usually, but not always, clears up a day or so after barbiturate intake is restored. Withdrawal can then be carried out gradually.

If the method of slow withdrawal is used, very little adjunctive therapy is required other than the provision of adequate supervision and protection of the patient. Proper attention to any coexisting organic disease is, of course, essential. In cases of mixed addiction to both barbiturates and alcohol, intensive dietary and vitamin therapy may be required. Withdrawal of morphine can be carried on concomitant with withdrawal of barbiturates without increasing the danger of convulsions or psychoses.

REHABILITATIVE THERAPY

Withdrawal of barbiturates is only the first step in treatment. Unless withdrawal is followed by an intensive period of rehabilitative therapy, the patient will almost certainly relapse to the use of barbiturates or some other drug. The average length of time that a patient should remain under treatment has not been established and will probably vary greatly in the individual case. So far as can be ascertained by clinical and psychologic examinations, *physical recovery* from the effects of addiction to and withdrawal from barbiturates is complete in 30 to 60 days.[2] Patients should remain under treatment for some time after regaining physical normality. Four to six months probably represent the minimum time for adequate rehabilitative therapy to be carried out.

After withdrawal is completed, any organic disease which the patient may have should be treated appropriately. If the patient is suffering with a chronic disease which is not completely curable, treatment should be designed to bring about the greatest possible physical improvement and to teach the patient to manage his disease without resorting to the chemical crutch of the barbiturates or other drugs. In cases in which intractable pain plays a role in the genesis of the addiction, appropriate neurosurgical procedures—sympathectomy, rhizotomy, chordotomy, lobotomy—should be considered.

During the rehabilitative phase of treatment, patients should never be allowed to remain idle. They should be given the opportunity to engage in useful, productive and interesting work rather than having to spend their time in weaving rugs and other such forms of occupational therapy. Whenever possible, the types of work prescribed should maintain or add to the skills which the patients possess, thereby enabling them to earn a livelihood after discharge. Patients

with chronic disease should, within the limits imposed by their disabilities, work at some useful occupation.

Adequate recreation must be provided. This program should include games of various sorts, athletics, various amusements (movies, music, lectures), and an ample supply of reading material.

PSYCHOTHERAPY

In any individual case, one must first decide whether psychotherapy should be offered at all. Like morphine addicts, many barbiturate addicts have intense infantile fixations and obtain very little benefit from psychotherapy. In such instances it is best to provide only a short period of close supervision, followed by a long period of close supervision in the patient's home environment. Patients who have reached a greater level of emotional maturity prior to addiction should be offered intensive psychotherapy. The form which the therapy will take will depend on the patient's problems and on the personality, attitude, training and orientation of the therapist. It does not differ in any way from the psychotherapy of neurotic patients who have never been addicted to drugs.

Since barbiturate addiction and alcoholism are similar problems, all patients should be encouraged to participate in the activities of Alcoholics Anonymous groups. Many patients appear to derive great benefit from this organization, which also provides help and encouragement to remain abstinent after discharge from the hospital.

Before a patient leaves the hospital, definite arrangements should be made for continuing supervision and treatment. The resources of an efficient social service department are invaluable in making such plans.

SUMMARY

Chronic barbiturate intoxication is a true addiction. Sudden withdrawal of barbiturates, or even sudden reduction in the dosage the patient is accustomed to taking, may be followed by convulsions, a delirium, or both.

Careful, gradual reduction in the dosage of barbiturates over a period of two to three weeks is the best method of withdrawing these drugs from addicted persons.

Withdrawal of barbiturates should be followed by a long period of rehabilitative therapy, including psychotherapy when indicated.

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(At the conclusion of the motion-picture exhibition.)

Mr. SIMPSON. These men like this stuff, do they not?

Dr. ISBELL. Where do they get it?

Mr. SIMPSON. No; I mean these addicts take this stuff because they like the effects of it?

Dr. ISBELL. Oh, yes; it means something to them.

Mr. BOGGS. How many patients do you have in that hospital, Doctor?

Dr. ISBELL. In the last year and a half or two we have had too many. Our population has been up between 1,400 and 1,500. Actually we can take care of probably about 1,300 adequately.

Mr. BOGGS. What is the average course of treatment; how long does it take?

Dr. ISBELL. We have several classes of patients. We have the Federal prisoners who have been confined for the violation of the Narcotics Act, and of course they stay there for the length of their sentence, until they have time off for good behavior, or unless they are paroled by the parole board.

There is another class of patients: We have volunteer patients, and a great many who are semivolunteers, there sometimes under pressure. We ask them to stay 4.5 months.

Mr. BOGGS. 4.5 months?

Dr. ISBELL. Yes.

Mr. BOGGS. What is the percentage of cure attained; by that I mean how many people?

Dr. ISBELL. I am sorry, Mr. Boggs, but I cannot say that these people come back enough to determine. They come to us from all over the United States, after they have left, and they go to all parts of the United States. Furthermore, the addict usually feels that he is not wanted. In fact, they travel around and actually it would be very difficult to determine.

Mr. BOGGS. I can understand that.

Dr. ISBELL. We write to them but we do not know that they get the letters. Sometimes they ignore them.

Mr. BOGGS. Why not use some other kind of a letter, such as the Social Security Administration?

Dr. ISBELL. I think perhaps that could be done.

Dr. HUNT. If I might add, Mr. Boggs, there is one reason for that, and that is the fact that by law the identity of the volunteer patient may not be disclosed to anyone, so we cannot write to the social agency in the outside city and ask them to follow up the patient for us, because we are forbidden by law to let them know the person has been an addict.

Mr. BOGGS. Let me ask my question this way: How many people do you have in the hospital who are volunteer patients who have been there before?

Dr. ISBELL. I could not give you any current figures. Several years ago, about 1945 or 1946, a survey was made. And at that time 60 percent of the patients were there for the first time; 40 percent were repeaters, but they may have repeated anywhere from 2 to 17 times; 60 percent were first-timers. The proportion of the first-timers now would be higher, because of the very large number of young addicts we are receiving.

Mr. SIMPSON. Will you yield for a question?

Mr. BOGGS. Certainly.

Mr. SIMPSON. Do you have any idea or data to indicate that the longer the individual is kept there the more complete the cure is?

Dr. ISBELL. The data I think shows that if he stays too long it is bad.

Mr. SIMPSON. I assume that you feel the 4.5 months is about the right time?

Dr. ISBELL. Yes.

Mr. BOGGS. Suppose you have a severe addict; you keep him on the dope as you call it for a given period of time, do you not, and then you gradually withhold it from him?

Dr. ISBELL. Yes; depending entirely upon the case, anywhere from say about 3 days to perhaps 3 months, and the 3 months would be only the individuals who had some severe organic disease.

Mr. BOGGS. Is it possible for the addict to cure himself?

Dr. ISBELL. I think it would be extremely unusual, extremely unusual.

Mr. BOGGS. Is there any such thing in this treatment comparable to the AA?

Dr. ISBELL. There is now something similar to the AA, which came into our institution, a narcotics anonymous group. That group is still active in the institution, I believe. There is also an active chapter operating in New York.

Mr. BOGGS. What is your theory about this tremendous increase in juvenile addicts, Doctor?

Dr. ISBELL. I think it is due to two things: First of all, the disturbing period after the World War, the increase in the illegal activities in crime, and so on, that has been dealt with since the end of the war.

And of course there are other things, the drug potential distribution, the drug peddlers who have been able to establish connections outside of our country and in some way have been able to obtain enormous amounts of opium and narcotics.

Mr. BOGGS. Do you favor the enactment of the Rogers bill; would you like to comment on that?

Dr. ISBELL. I could comment on it only as an individual, give you my own opinion.

Mr. BOGGS. I think that is very good.

Dr. ISBELL. I am not sure that I know what the bill provides for. If it provides for the setting up——

Mr. SIMPSON. Of Federal regulations.

Mr. BOGGS. Federal regulations.

Dr. ISBELL. What type of regulations? Will you explain that?

Mr. BOGGS. Do you have a copy of the bill?

Dr. ISBELL. The same as morphine?

Mr. BOGGS. Yes.

Dr. ISBELL. It would be my opinion, just as a lay person, that that is too severe. I think what you would do would be to drive the people to something else. If you enact this law it should also cover the other drugs, narcotics, bromides and all drugs having similar effect. Why pick barbiturates to the exclusion of the others? That is one reason.

Another thing, if you enact this bill you are going to deprive a lot of people who need it sometimes; there are a lot of people who use it properly, and you are going to make it difficult for them.

A third reason, is very much like alcohol, so far as I know, in trying to control alcohol, and that failed; it could not be controlled. This is just like alcohol, so why enact something that you cannot control.

Another thing is that if you enact this bill you will just be creating another tool for another illegal operation. I feel the situation is somewhat similar to that for whisky.

Mr. SIMPSON. Do you think the law is good, so far as morphine is concerned; the present law?

Dr. ISBELL. Yes. Morphine is a different thing. There is one thing perhaps I did not make clear; that barbiturates, you have to work at it considerably harder; we have to work longer at the barbi-

turates before these things happen, such as you saw in the picture. Barbiturates can be controlled, but with morphine you cannot do that. When the morphine habit starts they are gone. Millions of people control barbiturates and never get into trouble.

I think that there is some difference.

Mr. BOGGS. What percentage of the patients are addicts suffering from barbiturates?

Dr. ISBELL. Probably one man in five coming in—it used to be more—before we got the influx of the young addicts, but it seems to be about one and five. And about 1 to 20 of those coming to the institution take enough to be in danger of having those things happen to them that you saw in the motion picture.

Mr. HARRISON. Is there anything you recommend should be done about barbiturates at the Federal level?

Dr. ISBELL. From the point of view of law?

Mr. HARRISON. Of legislation, which is the only thing we are considering now.

Dr. ISBELL. Well, I am not a legal expert, but what I would suggest to you would be to see what the Food and Drug Acts provide for these things and to see if that does not need strengthening in some respect that is not now provided for.

Mr. HARRISON. In what respect?

Dr. ISBELL. In our Federal legislation where barbiturates are strictly prescribed; I think the drug stores in the sale of them are supposed to have prescriptions.

Mr. HARRISON. I thought that was the Rogers bill?

Dr. ISBELL. I think it must provide more than that in the way of penalties, just like the Harrison Narcotics Act.

Mr. BOGGS. Essentially to what we do with marijuana?

Dr. ISBELL. And morphine, too.

Mr. HARRISON. Your recommendation would be to simply rely upon the pure food laws, the Pure Food and Drug Act, and provide that barbiturates would only be applied under the direction of a doctor, through a drug store, by prescription which could not be refilled?

Dr. ISBELL. That is right. That is my personal opinion. I am not an expert on anything, except in the medical aspect, what happens to the people who take these things.

Mr. HARRISON. Suppose we did enact such legislation, what enforcement problem would there be as to the enforcement of the law?

Dr. ISBELL. I am afraid I could not answer. Dr. Anslinger can perhaps tell you.

Mr. BOGGS. Mr. Anslinger is going to testify a little while later.

Dr. ISBELL. Very well.

Mr. BOGGS. Do you have sufficient hospital facilities in the United States for the treatment and cure of addicts?

Dr. ISBELL. You mean narcotics?

Mr. BOGGS. Yes.

Dr. ISBELL. No; not now.

Mr. BOGGS. How many addicts do you estimate there are in this country now?

Dr. ISBELL. I would not even attempt to estimate; it would be hard to estimate. The last estimate, I believe, was based upon the draft figures which were collected about 1940. Now, we have this group of young addicts, below the draft age, in big cities, which would make

any kind of an estimate unreliable. In recent years the increase has been particularly bad among the colored population in the large cities in the East and Middle West.

Mr. BOGGS. Do you have a hospital at Fort Worth, Tex., performing the same function as your hospital?

Dr. ISBELL. It was set up to do that. During the last war the number of addicts fell off because of the practical cutting off of the source of supply. We were cut off from the source of supply during the war, when the Government was obtaining large amounts for medical purposes, also trying to keep it out of the hands of the enemy. And during the war the illegal market fell off and the number of addicts fell off until there were not enough addicts to operate both hospitals, so the Fort Worth hospital was converted into a hospital for the care of mental patients.

Another thing has happened now, with the increase in supply, the number of addicts has gone up and we may need Fort Worth again, at least temporarily, for handling addicts.

Mr. BOGGS. During this war period when the supply was to some extent removed, what happened to these addicts? They were withdrawn rather suddently, were they not?

Dr. ISBELL. Yes. They really had a tough time; a lot of them got off and went to work. Others went down to the Mexican border and started using the Mexican opium, started injecting that stuff intravenously. The price went to $10 a gram for stuff like that. They really had a tough time.

Mr. BOGGS. Do any of them die from sudden removal of the use of the drug?

Dr. ISBELL. From morphine?

Mr. BOGGS. From any of these drugs?

Dr. ISBELL. Morphine. Death from withholding of it may result in death if the individual has some other organic disease which would help him to die. But normally an individual, a healthy individual, never dies as a result of withholding the morphine. With respect to barbiturates accidents are very possible, particularly when the person suffers a convulsion; they may fall and strike their head and suffer a fracture, and it is possible to result from exhaustion; it may result in dangerous exhaustion, and the patient may die.

Mr. BOGGS. Do you have any further questions, gentlemen? If not we thank you very much, Doctor. This has been a very informative presentation.

Dr. ISBELL. Thank you.

Mr. BOGGS. We have one other witness, Mr. Harry J. Anslinger, Commissioner of Narcotics. Mr. Anslinger, Mr. Cunningham has already testified, and I believe covered a good many of the points we have before the committee, but we would like to have your views.

STATEMENT OF HARRY J. ANSLINGER, COMMISSIONER OF NARCOTICS, TREASURY DEPARTMENT

Mr. ANSLINGER. Mr. Chairman and members of the committee, I do not have a prepared statement. I have a few remarks to make with respect to the Boggs bill, which would be very desirable legislation.

Most of these peddlers, once they have served their sentence and get out of the penitentiary, go right back peddling drugs. I could give you hundreds of examples of those going right back into the traffic.

The average sentence is about 2 years, and if they can get probation it would be much less than that.

We find in cities and States like Minnesota and in cities like Minneapolis, Memphis, and Brooklyn, where heavy sentences are meted out, we do not find the amount of drug peddlers we find in the other States. For example, in Minnesota the ratio of addicts is about 1 to 25,000, whereas in a number of other places it is about 1 to 3,000 of the general population.

In Tennessee and West Virginia where just in the last few weeks they have enacted a provision similar to this, that is, they have approved the amendment for uniform State narcotic acts, which is the same as the amendment before you, and it is pending now in all the State legislatures which are in session, and we anticipate that quite a number of them will adopt the amendment. In Tennessee and West Virginia we find the traffic has gone down very drastically with the imposing of minimum sentences.

You ask about the source of supply today: Our source of heroin is Italy, Communist China, and Turkey. That is for heroin.

Opium: India, Turkey, and Iran are the principal sources; some from Mexico and some also from China.

Recently in Japan two or three Communist leaders were arrested for narcotics traffic in heroin from Communist China; one of the biggest chain operators is in Tientsin.

We are making some progress with respect to the source of supply from Italy. The Italian Government has invited our agents to come over there and cooperate with them, and we are finding a diminution of traffic.

The Turkish Government has also taken measures to prevent the sale of opium, and we are working in the United Nations this very day on a proposal to limit the production of opium in Turkey, Yugoslavia, Iran, and India, those being the principal producing countries.

We have also arrived at some agreement on that; we have arrived at agreements concerning limiting the manufacture and the control of distribution by the different countries. The manufacturing limitation has been in effect, but the control of production still remains our No. 1 objective.

I do not believe I have much more to say on the Boggs bill unless you have some questions on that.

I have some observations to make on the Rogers bill.

Mr. BOGGS. Are there any questions?

Mr. SIMPSON. It is your belief that higher minimum sentences are desirable?

Mr. ANSLINGER. I think in some respects it drives these peddlers out of business, and where you have the higher sentences now it has driven these individuals out of the business and the trade has dried up. Just as one illustration, where one judge came in and began to mete out sentences of 7 years to every peddler the traffic just disappeared. The recommendation as to having heavy sentences is one of the recommendations of the United Nations. We find where we have light sentences the traffic is usually heavy, and where heavy sentences are meted out the traffic just disappears.

Mr. BOGGS. What progress is being made in the United Nations? I know you are working on that now. What progress is being made to stop this international trade?

Mr. ANSLINGER. We expect to sit for 2 months in order to arrive at an agreement limiting the production of opium. These countries, producing countries, have a tentative agreement on the allocation of production and control by an international body, and the idea is that the United Nations would be able to work out a policy under which there would be some sort of an international agency set up to monopolize the handling of morphin, and thus the producers could agree on some sort of limitation. But to get the machinery carried into operation is going to be another thing. We are making progress on the matter of inspection. Competition from opposing contries is one of the problems to be worked out. I think all of the producing countries have also manufacturing. We hope to overcome these problems and reach some kind of an agreement on the limitation of production, and certainly that is our No. 1 objective. It is an old problem, one that has been confronting us since 1909. And I might say that Mrs. Wright's husband, Dr. Hamilton Wright, was the originator of the first opium conference in Shanghai, in 1909, and that was the first order of business, limitation of the production of opium, and we are still working on that problem today.

Mr. BOGGS. Would you give us your comments on Mrs. Rogers' bill?

Mr. ANSLINGER. All the narcotics that we control today are controlled by international agreement, and by having this international agreement we are able to look to that for our constitutional powers to limit manufacture and to license the manufacturing, but we control the imports of raw material and allot it to the manufacturers, to the various manufacturers, and we have only three.

So we are able effectively to control the manufacture and distribution of opium in this country, and not one grain of narcotics manufactured here finds its way into the international illicit traffic. There is some diversion of retail drugs and retail prescriptions, but it is very adequately controlled.

The same thing is true of synthetics. They are controlled by protocol. We are asking Congress for a licensing provision under that protocol which would give us power to license, because then we can control by licensing. So far there are just a few manufacturers who are manufacturing synthetic drugs, and they have conformed to our issues without legislation. Of course, those drugs are controlled exactly as is morphine.

But now, as to barbiturates, there is no smuggling. There is relatively little interstate traffic, and there is very little peddling. We have no control over the manufacture, and there are literally hundreds who are manufacturing barbiturates today. We would have no control except in the distribution. The distribution there under this bill would take the same restrictions as morphine is subject to today, but without a limitation on the manufacturer, which we could not have under this act, in order to control the distribution, it would mean that every package would have to be tax-paid. You can imagine the terrific problem we would have today with the thousands of pounds of non-tax-paid barbiturates that are in the traffic today. I mean not illicit traffic but that are in the channels of legal

trade. It would be worse than prohibition. It would take us years finally to get that under control, and we do not have enough men right now to do the job we are expected to do. The bill provides $1,000,000. It would take $5,000,000 and take five times as many men as we have, and then you would have conditions that would be similar to prohibition. I think it would become a very unpopular bureau in this country.

There are a number of other things here—for instance, control at the State level. There has been little or no attempt to control at the State level. This bill by the American Pharmaceutical Association for uniformity among the States would be very good providing it includes nonrefillable prescriptions. California, New York, Pennsylvania, and Maryland have enacted rather strict laws with respect to the control of barbiturates, and you find now, since those laws have been enacted, that the traffic has been diminishing and is getting right down to the medical practice in those States. Certainly the illicit use has decreased in those States where corrective legislation has been had. And wherever the States encounter trouble like this, they run to the Federal Government immediately and ask us to take the burden off them. This can be controlled at the State level, because we have seen it, particularly in Maryland and Pennsylvania. New York has just made a start, and California has just made a start, but they are gradually getting this thing under control. It would throw such a burden on us that we could not handle it unless we had a very, very large force of men.

Another thing is that if they put this under the Bureau, then the next thing will be bromides, and probably we will get down to aspirin. We think we are controlling the very dangerous narcotics now and, if we get into this business, it will be as Dr. Isbell has so ably pointed out. These narcotics, of course, have very great medical use, and the Secretary has opposed this bill, and we naturally fall in line with that, because certainly I do not think we could give it the proper attention that would be expected of us if this drug is to be controlled like morphine and cocaine. And we have done a good job in that, because we have had international treaties.

Mr. BOGGS. It is encouraging in one way to find an agency of the Federal Government that does not want any additional power.

Mr. HARRISON. I gather from what you say you would also not look with favor upon a bill that would provide that prescriptions could not be refilled. I mean a Federal bill.

Mr. ANSLINGER. I think the Food and Drug Administration—if their legislation could be strengthened with respect to this problem, it would have very great effect providing Congress puts it on a nonrefillable basis, because I think that is where a great lot of this difficulty arises. For instance, a woman in New York got a prescription for 10 seconol tablets which she had refilled 300 times and wound up in Bellevue Hospital. That is pretty common throughout the United States. I am just giving you one example. I think if you put this on a nonrefillable basis, you are going to get at the root of the trouble, because as the situation stands now you do not find much illicit traffic. Certainly it is not a peddling traffic like morphine, heroin, and cocaine. It is in the hands of the doctors and druggists today. I do not think we ought to take it out of their hands and

put it in the hands of the underworld, and certainly it is not in the hands of the underworld today.

Mr. HARRISON. What problems of enforcement would there be with a Federal law that forbade the refilling of prescriptions?

Mr. ANSLINGER. There would not be very much of a problem.

Mr. HARRISON. There would not be?

Mr. ANSLINGER. No, sir. I think the Food and Drug Administration is very capably handling the enforcement of the legislation they have now with respect to drugs that need prescriptions.

Mr. HARRISON. Do you think it might be well for us to consult the Food and Drug Administration?

Mr. ANSLINGER. I think it would be a very good idea to have Dr. Dunbar express his views on that matter.

Mr. SIMPSON. I would like to get clear on one thing. You would not want morphine and opium, and so forth, in the control of the druggists and physicians? That would not suit your purposes; would it?

Mr. ANSLINGER. No, sir.

Mr. SIMPSON. Then why would barbiturates be safe in their hands? Are they not as dangerous in their hands? That is what I cannot get.

Mr. ANSLINGER. Well, they are not as dangerous as the drugs we are controlling today. They are dangerous to a point, but certainly, as Dr. Isbell explained, they are not as dangerous as the drugs we are controlling today.

Mr. SIMPSON. You mean to the civil economy, to the populace, to the public, they are not as dangerous?

Mr. ANSLINGER. I do not think so.

Mr. SIMPSON. In that connection, how can you justify your statement that the Federal Government could not attempt to enter that field and the States could handle it?

Mr. ANSLINGER. I think the States could adequately handle it, as has been shown, when they put their shoulders to the wheel.

Mr. BOGGS. Are not they as dangerous as marijuana is?

Mr. ANSLINGER. I do not think so.

Mr. BOGGS. From just what little I saw in that demonstration, I have forgotten the figure Dr. Isbell gave, but my recollection is that only a small percentage of those marijuana cases was anything more than a temporary degree of exhilaration, but those barbiturate pictures indicated to me there is something much worse than that produced by barbiturates.

Mr. ANSLINGER. The danger is this: Over 50 percent of those young addicts started on marijuana smoking. They started there and graduated to heroin; they took the needle when the thrill of marijuana was gone. You do not find those young people taking barbiturates and graduating to heroin.

Mr. BOGGS. Do you find any of them graduating from heroin to barbiturates?

Mr. ANSLINGER. Very, very rarely.

Mr. SIMPSON. How about marijuana to barbiturates?

Mr. ANSLINGER. No; we do not find that.

Mr. BOGGS. Are all of those barbiturates produced domestically within this country?

Mr. ANSLINGER. They are all produced domestically; yes, sir. There is no importation.

Mr. BOGGS. Would there be any problem about controlling the manufacture rather than distribution?

Mr. ANSLINGER. Terrific. It would be beyond our power, because Congress could not give us a license. We could not license the barbiturate manufacturing as we do opium.

Mr. BOGGS. We can put a tax on them just like we do on spirits.

Mr. ANSLINGER. That still does not give us the licensing power. You can put a tax on, but you will find the barbiturates that are now in the channels of trade would be showing up 20 years from now non-tax-paid.

Mr. BOGGS. I do not think there is any problem about putting on a tax, Mr. Commissioner. We can put a grower tax on them.

Mr. ANSLINGER. You can put a tax on, but I am talking about the amount of barbiturates in the trade today that are not tax paid, and you could not enforce that.

Mr. BOGGS. All the committee is trying to do, of course, is to get information, and God knows nobody here is trying to extend Federal authority, but apparently this is a problem.

How many States are there that have no regulations at all on this trade?

Mr. ANSLINGER. I think there are 34 States that have some kind of legislation.

Mr. BOGGS. That means about 16 do not.

Mr. ANSLINGER. About 16 do not.

Mr. BOGGS. About 16 have no regulations whatsoever?

Mr. ANSLINGER. They have no adequate regulation.

Mr. BOGGS. Certainly there is a Federal problem here; if 1 out of 5 of those patients at these hospitals is a barbiturate addict, then 20 percent of the funds to maintain those hospitals are the result of that type of addiction.

Dr. ISBELL. There is also nembutal addiction, and they have no authority to admit them to our institution. He has to be a morphine addict. That is the reason all of ours are that way.

Mr. BOGGS. I believe you agree, Mr. Commissioner, do you not, that there is a problem here?

Mr. ANSLINGER. Oh, quite definitely.

Mr. BOGGS. Admitting there is a problem and eliminating for the moment the suggestion Mrs. Rogers has made, is there any more practical way you can think of that we might possibly strike at this problem?

Mr. ANSLINGER. I think by giving the Food and Drug Administration a little more power in their code to provide for nonrefillable prescriptions. I think if they get that, it will go a long way toward curing the situation.

Mr. BOGGS. And you feel that power should not be limited to barbiturates but should also include these other drugs that Dr. Isbell has talked about?

Dr. ISBELL. The other sedatives—seconol and bromides.

Mr. ANSLINGER. I am not qualified on that; I can only speak as to barbiturates, because we have not run into bromide addiction, or addiction to those other drugs. I think probably chloral hydrate might be included here, but that is something for Food and Drugs; because, after all, they have that problem and know the extent of it.

Mr. BOGGS. Getting back to my bill for a moment, there is no doubt in your mind, is there, of the connection of the underworld generally and these dope peddlers, as we call them?

Mr. ANSLINGER. It is practically all underworld.

Mr. BOGGS. Practically all underworld?

Mr. ANSLINGER. Yes, sir; it is all underworld.

Mr. BOGGS. And you have to strike at the center of the octopus really to wipe it out?

Mr. ANSLINGER. And at the big fellows, and the big fellows are not being sent away. We can send them away; we can arrest them and make a case against them, but we cannot keep them in detention.

Mr. BOGGS. Under the Harrison Narcotics Act—this may be an elementary question and possibly I should know the answer to it, but I will preface my remarks by putting it this way—I understand quite a few aliens are involved in the dope traffic.

Mr. ANSLINGER. Yes, sir.

Mr. BOGGS. I further understand that under the existing immigration laws an alien legally residing in this country who is convicted of two or more crimes involving moral turpitude is subject to deportation. Is that correct?

Mr. ANSLINGER. That is true; yes, sir.

Mr. BOGGS. Is dope peddling a violation of the Harrison Narcotics Act and considered a crime involving moral turpitude?

Mr. ANSLINGER. Yes, sir. And I think there is special legislation requiring deportation upon conviction. He does not have to have two convictions under the Harrison Act to be deported. I think you will find our Bureau has deported more aliens for violation of the narcotics law than most of the other bureaus have for violations, because we can deport immediately upon conviction. Our deportations run up into the hundreds. We do not have to have a second conviction on that.

Mr. HARRISON. In that connection, have you had any difficulty with judges in Manhattan who have issued writs of habeas corpus without bond at the time you were endeavoring to deport them?

Mr. ANSLINGER. No, sir. We have had maybe one or two cases, but we managed to deport them.

Mr. BOGGS. I want to get that straight in my own mind. An alien who is convicted of violation of the Harrison Narcotics Act is immediately subject to deportation?

Mr. ANSLINGER. Yes, sir; unless he is an addict. And I think that is a defect in the act. If the man is an addict, he cannot be deported.

Mr. DONOVAN. An addict who is not a peddler.

Mr. ANSLINGER. An addict who is not a peddler. That is true. He cannot be deported.

There was a case down in your city involving this man Sam recently. We did have some trouble about that. He was deported. He was convicted in 1935 but was not deported until about 2 years ago.

Mr. BOGGS. He turned up again?

Mr. ANSLINGER. He turned up again, and then there was a question of venue.

Mr. HARNEY. They could not prosecute him because they could not prove where he stepped across the line. They could not prove where he entered.

Mr. ANSLINGER. The most of those fellows try to get back. This man went from Italy to Mexico and came in here. We had considerable trouble getting him out again.

Mr. BOGGS. I remember that case. I am thinking about that case, as a matter of fact. There was a lot of public comment on that case. I asked the Bureau of Immigration and Naturalization to give me an opinion on it—it may have been that case or some other case—and my understanding of their ruling was somewhat different from what you have said. I do not have it before me; so I cannot be accurate about it.

Maybe I should put my question in another way. Do you feel that the law as it presently exists is adequate to provide for deporting those undesirable aliens who engage in the narcotics racket?

Mr. ANSLINGER. I think it is adequate.

Mr. BOGGS. It certainly was not adequate in the case of this fellow.

Mr. ANSLINGER. Not in his case. This was a case where he was charged with illegal entry. I do not know why they could not have deported him under the original act or under the original sentence.

Mr. BOGGS. But any conviction for violating the Harrison Narcotics Act—just one conviction—is sufficient to deport?

Mr. ANSLINGER. Yes, sir. Two lawyers are here who can answer that.

Mr. MITCHELL. Except if he is an alien and not an addict. If it is just a possession case of an alien, we can deport him.

Mr. ANSLINGER. I think we should even get rid of that defect in the legislation, because I think they have sympathy for an alien who is an addict.

Mr. BOGGS. When you pick him up, you turn him over to the Immigration and Naturalization people?

Mr. ANSLINGER. We first process him through the courts and get a conviction. He usually serves some sentence and after the sentence he is deported. Sometimes I think he is paroled for deportation after he has served a sufficient time in the penitentiary.

Mr. BOGGS. How long has that been the law?

Mr. DONOVAN. Since 1931, I think.

Mr. SIMPSON. On that point, where you send this chap out of the country and you do not have a very long sentence, does he repeat? Where he goes out and get another load and comes back again, do you have any figures on that?

Mr. ANSLINGER. No; I do not have any figures on that.

Mr. SIMPSON. That would be an interesting study of these fellows who get free transportation overseas and come back.

Mr. ANSLINGER. We watch them abroad; we try to keep track of their activities abroad, and we also inform the government of the country to which they are deported, and the police put them on record and keep pretty good track of them.

Mr. SIMPSON. Do not they jump ship when they come back here illegally?

Mr. ANSLINGER. Some have and we have picked them up again.

Mr. SIMPSON. Do they bring a load in with them?

Mr. ANSLINGER. They have done that. We had a case last year of one of the biggest peddlers in New York who was deported to France and came back here and engaged in national distribution.

Mr. BOGGS. How did he get back in the first place?

Mr. ANSLINGER. He signed on as a seaman.

Mr. BOGGS. His entry was illegal then, of course.

Mr. ANSLINGER. Yes; that is right. We have asked all of the countries to consider the matter of denying seamen's licenses to anyone who is convicted.

Mr. SIMPSON. If that fellow had had a longer sentence when he got caught, he would at least have been kept in the penitentiary.

Mr. ANSLINGER. We would rather keep them in the penitentiary here than to deport them.

Mr. SIMPSON. Why would it be harder to control the production of barbiturates than it is to control the production of marijuana?

Mr. ANSLINGER. We do not manufacture marijuana.

Mr. SIMPSON. But you undertake to control it.

Mr. ANSLINGER. We do; yes, sir.

Mr. SIMPSON. That must be a pretty tough job.

Mr. ANSLINGER. Oh, it is a tough job. We do the best we can. We have practically eradicated illicit production.

Mr. SIMPSON. You have eradicated the illicit production of marijuana?

Mr. ANSLINGER. Yes, sir.

Mr. SIMPSON. Is there a proper use of marijuana?

Mr. ANSLINGER. Yes, sir. In Kentucky hemp is grown for seed and is sent up to Wisconsin and Minnesota where it is grown for hemp. There is quite a hemp industry. There is not too much diversion in those States, because the farmers there are very alert and call the sheriff if they see any suspicious characters about. We practically have eliminated illicit production in the Eastern States and most of the Southern States, but there is, of course, a volunteer growth in some of the older States like Kansas and Nebraska. Most of the marijuana used today in New York, Washington, Baltimore, and Chicago is smuggled in from Mexico.

Mr. SIMPSON. In the making of barbiturates, are there 100, 50, or 25 companies that manufacture that?

Mr. ANSLINGER. I would say it would be more in the neighborhood of 50 or probably more than 50; whereas of the alkaloid manufacturers and those who manufacture synthetic drugs, there are only three that manufacture morphine, one that manufactures cocaine, and just about two that manufacture wholly synthetic narcotics. So we have very good factory control.

Mr. SIMPSON. You do not think 50 would be too hard to supervise?

Mr. ANSLINGER. I imagine our force is less than 200 men in the whole United States, and then we have to do a little work abroad.

Mr. SIMPSON. By supervising, you mean you have guards around the places or something like that?

Mr. ANSLINGER. There may be some factories with guards. I do not know. But certainly we would have to have a big force of men to keep checking those plants to see that there is no diversion, because you would immediately get a situation there where the temptation would be so great in those various plants that you would have a terrific diversion. And we would be working, certainly, on a lot of plants until we finally got it under control, because a lot of those plants today do not manufacture morphine.

Mr. SIMPSON. But you could control them?

Mr. ANSLINGER. If we had the manpower; but, without a licensing provision, I doubt it very much.

Mr. BOGGS. Just as a practical matter, if the Federal Government cannot regulate this business, how in the world can the individual States do it?

Mr. ANSLINGER. I think they can regulate the distribution of it, and I think by regulating the distribution of it it will slow down the manufacture. Right now I do not think there are any manufacturers involved in any illicit traffic.

Mr. BOGGS. If there are no further questions, thank you very much.

Mr. HARRISON. Mr. Cunningham, were you able to get those records we asked for?

Mr. CUNNINGHAM. Yes. I have them for you.

Mr. BOGGS. If there are no further witnesses today, the committee stands adjourned.

(The following letter was submitted for the record:)

AMERICAN MEDICAL ASSOCIATION,
Chicago 10, April 12, 1951.

Hon. ROBERT L. DOUGHTON,
Chairman, Committee on Ways and Means,
United States House of Representatives, Washington, D. C.

DEAR SIR: On behalf of the American Medical Association, I respectfully request that the comments that follow be made a part of the record of the hearings on H. R. 348, a bill introduced by Representative Rogers of Massachusetts, to provide for the coverage of the barbiturates under the Federal narcotics laws.

Our association has for a number of years recognized the dangers incident to the misuse of the barbiturates. In 1937 our house of delegates adopted a resolution advocating that the sale of these drugs be placed under proper governmental control and recommended that the matter be referred to the board of trustees with the request that our bureau of legal medicine and legislation take such steps as in its judgment were appropriate to accomplish that end.

The board of trustees, pursuant to the spirit of the action taken by the house of delegates, requested the council on pharmacy and chemistry to prepare a scientific statement for publication in the journal relative to the dangers incident to the misuse of the barbiturates, and requested the bureau of legal medicine and legislation to prepare a statement for similar publication concerning the need of restrictive legislation. The statements and editorials relative to the matter were published in the journal, together with an analysis of the proscriptions then contained in State laws relative to the barbiturates. Reprints of this material were made available and were widely distributed. Contact was made with the State medical association of each jurisdiction in which the over-the-counter sale of drugs was then permissible, some 14 in number, with the suggestion that State legislation be sponsored requiring the limitation of sales to those on prescription. Since that time, there has been a gradual improvement so far as State legislation is concerned. At the present time only four States lack specific legislation in this field, Arizona, Kansas, New Hampshire, and Wyoming. In all of the other States, laws have been enacted in an effort to confine the use of the barbiturates to strictly medical needs. New Mexico is the latest State to take action, having enacted its law this year.

The laws that have been enacted follow no uniform pattern. In some States the regulation of the sale of the barbiturates is accomplished through the medium of laws regulating the sale of dangerous drugs generally. In other States the barbiturates are included in the definition of narcotics and subject to the restrictions placed on narcotics. In still other States, laws regulating food and drugs have been amended to prohibit the sale of the barbiturates except on prescription. In all of the States, however, the regulatory laws have a single objective, namely, to prohibit the over-the-counter sale of these drugs. Since 1937, our house of delegates has on a number of occasions reexpressed its opinion that the unrestricted sale of these drugs should be curbed and has stated that the restriction should be imposed on a State rather than on a Federal level.

The pending bill, H. R. 348, has been carefully reviewed by our committee on legislation. This committee has concluded that the enactment of this bill by the Congress would represent a continuation of a trend to confer more and more authority on the Federal Government in matters more properly coming within the jurisdiction of the States. In the viewpoint of the committee, if this trend is to continue, we may eventually come to a situation where no drug that may be of harm to a patient if used unwisely may be prescribed by a physician without the consent of the Federal Government.

Your committee may recall that the Federal narcotic laws were amended some time ago so as to bring within their coverage a new drug marketed under the name of Demerol but referred to in the amendatory legislation as isonipecaine. Still later the narcotic laws were amended to provide for the coverage of "opiates" defined to mean any drug found by the Secretary of the Treasury to have an addiction-forming or addiction-sustaining liability similar to morphine or cocaine. The pending bill, of course, would further broaden the coverage of the Federal law.

It might appear inapropos for a representative of medicine to interject a question of constitutionality, but it seems to me that the committee might well keep in mind the possible question that might arise as to the constitutionality of this bill if it is enacted. The Harrison Narcotic Act has been held constitutional on the ground that it is a tax measure. The pending bill does not impose any taxes but on the contrary would authorize an appropriation of $1,000,000 to enforce its provision. It may be conceded that the Federal Government may regulate interstate and foreign commerce in the barbiturates, without resorting to the authority given to the Congress to levy taxes. The extent to which the Federal Government can go, however, in regulating intrastate transactions in these drugs raises a substantial question that should be given very careful consideration by the committee.

I, therefore, suggest on behalf of the American Medical Association that H. R. 348 be not approved by your committee.

Sincerely yours,

GEORGE F. LULL.

(Thereupon the committee adjourned until 2 p. m., Tuesday, April 17, 1951.)

CONTROL OF NARCOTICS, MARIHUANA AND BARBITURATES

TUESDAY, APRIL 17, 1951

House of Representatives,
Subcommittee of the
Committee on Ways and Means,
Washington, D. C.

The subcommittee met at 2 p. m., pursuant to call, in the Ways and Means Committee room, Hon. Hale Boggs, chairman of the subcommittee, presiding.

Mr. Boggs. The committee will come to order.

This afternoon we would like to hear Dr. Paul Dunbar, Chief of the Food and Drug Administration of the Federal Security Agency. I understand Dr. Dunbar has Mr. George P. Larrick, Associate Commissioner, and Mr. William Goodrich, legal counsel, with him. You gentlemen can come up, too, if you like.

STATEMENTS OF DR. PAUL B. DUNBAR, COMMISSIONER, FOOD AND DRUG ADMINISTRATION, FEDERAL SECURITY AGENCY; GEORGE P. LARRICK, ASSOCIATE COMMISSIONER; AND WILLIAM GOODRICH, LEGAL COUNSEL

Dr. Dunbar. Mr. Chairman and gentlemen, my name is Paul B. Dunbar. I am Commissioner of the Food and Drug Administration. I am here at the invitation of the committee to tell you waht experience the Food and Drug Administration has had in connection with the barbiturate problem, particularly in the enforcement of the Food Drug, and Cosmetic Act, which is our responsibility.

I have a prepared statement which I think perhaps I might read to conserve the committee's time. Perhaps I will interject a few statements as I go along, and I hope you will not hesitate to interrupt me if there are any questions you desire to ask.

The problem of distribution of barbiturates may be divided into five categories. First, the improper sale in drug stores of barbiturates without a prescription. Second, the refilling of prescriptions without the physician's knowledge. Third, bootlegging operations in barbiturates involving bars, houses of prostitution, peddlers, and hotel bellboys, and other concealed activities. Fourth, the distribution of barbiturates in intrastate commerce. Fifth, excessive prescription of barbiturates by some physicians.

The Food, Drug, and Cosmetic Act provides a means of effecting some measure of control over violations in the first two categories. That is the improper sale in drug stores without a prescription and the

refilling of prescriptions without the physician's knowledge. There are approximately 50,000 retail drug stores in the United States. Fortunately, the great majority of pharmacists do not sell barbiturates illegally, and I wish to emphasize that. The great majority of our pharmacists are ethical, law-abiding citizens who do not sell excessive barbiturates.

Mr. HARRISON. May I interrupt you there?

Is there any Federal law at all on the subject?

Dr. DUNBAR. The Food, Drug, and Cosmetic Act, Mr. Congressman, does cover that in the measure, and I will come to that in a few minutes, if I may.

Fortunately, the great majority of pharmacists do not sell barbiturates illegally, but there are enough that do to make it very difficult for our staff of 250 inspectors to police the problem as it relates to retail drug stores.

These 250 men are responsible for investigations dealing with the whole food, drug, and cosmetic supply of the Nation. We have been able to devote only 25 man-years during the past year to the investigation of the barbiturate and other dangerous-drug problems.

You see, with a force of 250 inspectors, we are obliged to patrol the food, drug, and cosmetic supply in interstate commerce of the entire 150 million population, so that only a small proportion of our inspectors' time can be given to this particular problem.

Now the Food, Drug, and Cosmetic Act is not an effective vehicle to regulate bootlegging activities in barbiturates. Illegal possession is not an offense under this statute. No system of record keeping is required under the terms of Food, Drug, and Cosmetic Act. To prove an offense under the Federal statute, it must be shown to the satisfaction of a court and a jury that the drug sold has previously moved in interstate commerce. This is ordinarily impossible to prove where the drug is handled through bootleg channels.

When the barbiturates are manufactured and sold within the boundaries of a single State, there is no offense under the Federal act, because this statute rests on the commerce clause of the Constitution. The act places no restrictions on the excessive prescribing of barbiturates by physicians.

In other words, such activities of physicians are regulated solely by State medical-practice acts.

We have investigated hundreds of tragedies resulting from the improper use of the barbiturates. Accidental deaths, suicides, drug addiction, broken homes, and many other tragedies are caused by the unwise use of these medicines.

I know, Mr. Chairman, and members of the committee, that members of the Public Health Service have gone into considerable detail about that. I will not elaborate on the tragedies we have encountered. But I might just cite two cases which have resulted from our investigations.

For instance, here is one. The problem caused by unwise use of barbiturates is illustrated by the twins in a kindergarten in Texas that were described by the teachers as extremely difficult to manage one day and lethargic the next. Investigation disclosed that the father was a barbiturate addict and gave the children the pills so they would not bother him. The particular case resulted in prosecution of the pharmacist who supplied these excessive barbiturates, and a plea of

guilty was entered. A suspended sentence was imposed, and the illicit distribution of barbiturates through the druggist in that particular locality ceased.

Our report showed prior to this prosecution the city jail usually had 50 or 60 addicts in confinement. I think it was 60. After the prosecution was brought against this druggist who had supplied this addict who gave the drug to his twin children, the jail practically went out of business so far as confining addicts was concerned.

So that we did have some corrective effect from that particular action.

Quite recently the matron of a reform school for girls advised our investigator that half of the inmates, all of whom are 18 years of age or younger, were addicted to barbiturates when they entered the institution. It is well-established that persons addicted to the use of narcotics will substitute barbiturates when they cannot acquire the morphine derivatives. It is the opinion of juvenile authorities with whom we have consulted that the problem of juvenile delinquency frequently involves the use of barbiturates.

A typical case brought under the Food, Drug, and Cosmetic Act first came to our attention when a Chicago newspaper reported the death of a local resident from an overdose of sleeping pills. Investigation disclosed the source of his supply to be a drug store in Milwaukee. Investigation disclosed that the store was selling barbiturates promiscuously and was refilling barbiturate prescriptions without the authorization of the physician. When a plea was entered, the court imposed a fine of $1,000 and placed the pharmacist on probation for 1 year.

Now, Mr. Congressman, I am going to answer your question and then come back to certain tables of information which I have which I want to introduce in the record.

You have asked me whether there is any authority in the Food, Drug, and Cosmetic Act to control this situation.

The Food, Drug, and Cosmetic Act of June 25, 1938, in section 301 (k), prohibits—

> the doing of any act with respect to any drug if such act is done while such article is held for sale after shipment in interstate commerce and results in such article being misbranded.

I am quoting the language of the act.

Now, there is a basic requirement of the Food, Drug, and Cosmetic Act that drugs used for self-medication must be safe for their intended use and they must bear adequate directions for use. There are many drugs which can be used safely and efficaciously only under the supervision of a physician. They cannot be safely used in self-medication.

Now the barbiturates, commonly known as sleeping pills, and a number of other drugs like the sulfa drugs, thyroid, amphetamine sulfate, penicillin, and other antibiotics are examples of drugs that are highly useful to the doctor, but are too potent to be used by a layman without medical supervisoin.

To accomplish the purposes of the Food, Drug, and Cosmetic Act, it was necessary to promulgate regulations which would make it legally possible for these drugs to be sold for physicians' use but at the same time prevent their sale for use in self-medication.

Now the device we followed is this: A regulation has been issued which provides that drugs in this class—and I am talking now of the barbiturates—can be legally shipped by the manufacturer of the drug

if they bear the legend "Caution: To be dispensed only by or on the prescription of a physician."

Thus, barbiturates which are shipped in interstate commerce today do bear the legend "Caution: To be dispensed only by or on the prescription of a physician." I have a few exhibits here which give you an idea of how they are labeled.

When a pharmacist receives sleeping pills in interstate commerce bearing this legend, he commits an act in violation of the Food, Drug, and Cosmetic Act if he sells the barbiturate otherwise than on prescription. The Supreme Court decided in January 1948, in the case of *United States* v. *James Jordan Sullivan*, that this is the law. They held that the purpose of the Food, Drug, and Cosmetic Act was to safeguard the consumer by applying the act to articles from the moment of their introduction into interstate commerce all the way to the moment of their delivery to the ultimate consumer.

Now the net effect of that merely is this: that the manufacturers of these barbiturate derivatives—and they number in the hundreds; they have innumerable trade names, but basically they contain some derivative of barbituric acid—comply with the law by labeling them as you have noticed them here with the warning: "Caution, to be dispensed only by or on the prescription of a physician."

The big portion of the pharmacists comply with that instruction. They sell barbiturates only when the patient submits a bona fide prescription and then sell only the number of tablets that the doctor orders. When they do that, they have complied with the law. When they do that, the medicine is taken by the patient under the doctor's direction and serves a useful and not a dangerous purpose.

The pharmacist who ignores this caution—and he is very much in the minority—and who sells without a doctor's prescription or sells more than a doctor's prescription, has committed a violation of the law in that he has done an act which under section 301 (k) has caused the article to be misbranded. So that is a device which we employ against the pharmacist on the illegitimate sale of these sleeping pills.

Mr. HARRISON. Does that apply to the refilling of prescriptions also?

Dr. DUNBAR. That is a problem that is now being given consideration in the two bills before the House and the Senate known as the Humphrey-Durham bill, in which it is proposed to authorize the refilling of barbiturate prescriptions under certain conditions which will safeguard the purchaser, but the refilling of a prescription for a barbiturate without a specific order from the doctor is in our judgment a violation of the statute.

Mr. HARRISON. Now, then, do you require the druggist to keep records by which you can check whether he has violated this law or not?

Dr. DUNBAR. He keeps that record. We do not have the power to compel him to do it. He might destroy his records. But it is actual pharmacy practice to keep prescriptions on file.

Mr. HARRISON. What I have in mind is that, with respect to the druggist who is violating your regulation, there is no way that you can go to his records, like on a whisky prescription or a narcotics prescription, and see what he has been doing; is that right?

Dr. DUNBAR. Well, as a matter of actual practice, in most cases we can find from his records how it is done.

I would like to ask Mr. Larrick, the Associate Commissioner, who has charge of this particular branch of enforcement, to tell just what the procedure is that we follow in such a case, if I may.

Mr. LARRICK. There is nothing in the statute that requires any record keeping at retail level. There is no authorization by which we can promulgate any regulation. As a matter of practice, when they do have records, we go and look at them, but it is just a matter of practice.

Mr. HARRISON. Without violating your regulation, he is not going to keep records where you can convict him?

Mr. LARRICK. That is right.

A crooked man is apt to falsify his records if he keeps them and he is liable to keep no records.

Mr. GRANGER. You do not have much authority—do you?—on which to issue an order such as that. Has it ever been challenged?

Dr. DUNBAR. Yes; we think that the Supreme Court's decision in the Sullivan case, to which I referred a moment ago, does give us the authority under which this particular regulation can be issued.

As a matter of fact, following the Supreme Court's decision, the Congress did amend the law by writing in this section 301 (d) the provision that the doing of any act at any time which may result in misbranding will constitute violation of the law.

This House, gentlemen, has been extremely receptive to provisions for strengthening this law. It has been extremely sympathetic with the enforcement of the statute. The law is not perfect by any means.

Mr. HARRISON. What committee have you been appearing before?

Dr. DUNBAR. The Interstate and Foreign Commerce.

Now there are a few points that the committee would wish to be enlightened on. I understand that question has been asked.

Mr. BOGGS. Let me ask you a few questions first before you go to those questions.

As you know, we have several bills pending before the committee. One of them deals specifically with narcotics as such and is designed to increase the penalties for repeaters who sell what is normally classified as "dope"—morphine, heroin, marijuana cigarettes, and so on. Our investigations of that matter showed that the average sentence for narcotic violators—and that included first offenders and offenders thereafter—was about 23 months. That did not include probation, which, if included, would probably reduce it to about 18 months.

As a matter of fact, I noticed a piece in the press several days ago from my home State where the narcotics people have seized a tremendous quantity of narcotics and the people involved were third and fourth offenders.

I presume that the Pure Food and Drug Administration concurs with the Department of Justice and the other agencies of the Government in supporting that legislation?

Dr. DUNBAR. There is no question about it. Of course, we are probably not as capable of evaluating the need for such increased penalties as Mr. Anslinger's Bureau, but certainly, on the basis of our general knowledge we would say that increased penalities are highly desirable. It is the most vicious type of criminal offense and it

should be treated severely by the courts. I would certainly concur in the opinions that I know Mr. Anslinger and others have expressed in favor of increased penalties.

Mr. BOGGS. Now we also have pending before the committee the Rogers bill which seeks to define the barbiturates in a similar category with morphine and the other narcotics. That bill has created a considerable amount of controversial discussion. Mr. Anslinger told the committee last Saturday that while he recognized the problem involving these barbiturates, he felt that the policing job involved there was a tremendous one. He further expressed the opinion that in his judgment the only way the problem could be gotten to was by certain amendments to the Pure Food and Drug Act.

Now do you have any specific amendments that you might like to recommend?

Dr. DUNBAR. I do not at the moment.

Mr. BOGGS. I might say this one other thing. We had some movies which were made at the hospital at Lexington, Ky., by the Federal Security Agency. From the standpoint of addiction it looked to me as a layman, as if one type of addiction was just as bad as the other. We looked at those movies and examined Dr. Isbell, who is the superintendent of that hospital, and he, too, recognized this problem, and also said that he felt the best way to handle it would be through the Pure Food and Drug Act.

Dr. DUNBAR. As I stated at the outset, Mr. Chairman, there is no question in my mind that the Food and Drug Act even in its present form and without amendment gives us reasonable control over the illicit distribution by pharmacists of barbiturates.

Mr. BOGGS. I wonder if I could interrupt you there. Let us take a State where there is no legislation on the distribution of barbiturates. I understand there are 14 such States.

Mr. HARRISON. It is my recollection that there are 34 that do not.

Dr. DUNBAR. I think there are more than 14. I have some information on that.

Mr. LARRICK. The number of States that have barbiturate laws lacks meaning unless you analyze each one of those laws and see what it provides. By and large, many of the laws do not deal with repetitious refilling of prescriptions and only a few of the States have really good laws nor do they have adequate funds and personnel to undertake extensive enforcement.

So, to accomplish the purpose on a State level, it would be necessary to enact a goodly number, of perhaps uniform laws and then to have the States energetically provide funds and personnel to do an effective job

Dr. DUNBAR. I think, Mr. Chairman, if every State in the country could be expected to pass adequate control laws and to enforce them adequately, the problem would be solved. It is thoroughly unrealistic though, in the light of our knowledge of what has been done in the way of State enactment, to believe that in any measurable time in the future 48 States will take control.

Mr. BOGGS. Now here is a question I want to ask you. If there are a number of States that have no regulation whatsoever, then what enforcement do you have in those States?

Dr. DUNBAR. None whatever, if the barbiturates are manufactured inside the State and distributed inside the State.

Mr. BOGGS. Exactly. So that in State X, without any regulation, if the drug is manufactured in that State, then they can sell any quantity over the counter. Is that not so?

Dr. DUNBAR. That is true, if there is no interstate traffic involved.

Mr. JENKINS. You are the head of the Food and Drug Administration. Now that is a great department of the Government. I have always felt it is a very popular organization. You are not primarily a police organization, however; you are an educating organization. I have always looked upon you as a protector of the people so that they would have pure foods and pure meats and you would encourage sanitation and all things like that. I never did know how powerful you were from an enforcement angle. I used to be prosecuting attorney and United States Commissioner, but I do not remember of ever running across your enforcing officers.

Dr. DUNBAR. There are two ways to enforce the law. One of them is by steering the well-intentioned manufacturer along the straight and narrow path and educating him to comply, but that kind of educational enforcement work is not effective unless the "big stick," the policeman is ready to crack down on the people who do not follow the straight and narrow path. We are a police organization, I might just as well confess it, and just to illustrate and point up that fact, let me state here that in connection with the illicit sale of barbiturates, we have since March 1, 1945, up to and including March 14, 1951, brought 100 prosecutions against pharmacists for the illicit sale of barbiturates, that is, prosecution under the Food, Drug, and Cosmetic Act.

(Table 1 of terminated cases involving barbiturates follows:)

TABLE I.—*Terminations of over-the-counter and unauthorized refill cases involving barbiturates (as of Apr. 1, 1951)*

FDC No.	Defendants [1]	Product	Violation	Date closed and amount of fine
14237	Fadal's Square Drug Store, Waco, Tex	Nembutal [2]	Over the counter	Mar. 1, 1945: Plea, guilty; fine, $600; 6 months' jail sentence suspended; 2 years' probation.
15523 15524	Morgan & Jay Jones, trading as Lewis Drug Store, Jackson, Ohio.	Seconal, luminal	do	May 21, 1945: Plea, guilty; fines as follows: Morgan Jones, $1,200, $150 on each of 8 counts; Jay Jones, $300, $100 on each of 3 counts; total fine, $1,500.
17798	Cottage Pharmacy and Peter P. Eacment, Dorchester, Mass.	Nembutal	do	Mar. 12, 1946: Guilty, $400.
19538	I. James Hendelberg, an individual, trading as Southeast Pharmacy, Washington, D. C.	do [2]	do	Apr. 22, 1946: Plea, nolo contendere on all 4 counts; fine, $100 fine or 90 days on each count; total, $400; fine paid.
20119	V. E. Canalez, owner, Ramona Drug Co., Phoenix, Ariz., and Garfield Gray, pharmacist, employee.	Seconal	do	May 15, 1946: Plea, guilty; V. E. Canalez, $200, count 1; imposition of sentence, counts 2 and 3 suspended for 1 year; Garfield Gray imposition of sentence suspended for 1 year, all counts.
20117 20118	Louis L. Patt, doing business as Courtesy Drug Store, Phoenix, Ariz., and Louis Spiegel, pharmacist. Al J. Defnet, Phoenix, Ariz.	Elixir alurate, ephedrine, and amytal.	do	32225–H, May 13, 1946: Plea, nolo contendere. Fine, Louis L. Patt, $200; Louis Spiegel suspended for 1 year. 73926–F, 73934–F, 73975–F, plea, Louis L. Patt, nolo contendere; Al Defnet, not guilty; fine, Louis L. Patt, count 1, $200 fine; counts 2 and 3, imposition of sentence suspended for 1 year; defendant Al Defnet withdrew plea of not guilty and substituted therefor plea of nolo contendere, Judge Ling suspended imposition of sentence for 1 year.
17849	Ben Glina, trading as Glina's Drug Store, Phoenix, Ariz.	Seconal, elixir alurate, ephedrin, amytal.	do	May 13, 1946: Plea, not guilty; change of plea to nolo contendere; May 13, 1946; fine, $200, count 1; counts 2 and 3 dismissed.
17867	Harry Cavassa, sole owner of Peninsula Drug Co., San Francisco, Calif.	Amytal and seconal [2]	do	November 7, 1946: Plea, not guilty Oct. 16, 1946; verdict, guilty to all counts, November 7, 1946; fine, $200 fine for each count or a total fine of $1,200 on 6 counts; Total, $1,200.
17860	Alfred R. Collins, sole owner, trading as Collins Bros., Walgreen Agency Drug, Big Springs, Tex.	Seconal [2]	do	October 10 1946: Plea, not guilty; fine, acquittal (all 3 counts).
21453	Red Cross Pharmacy, Inc., Dallas, Tex., and Dayton B. Blaine, Claude C. Schwab.	do	do	March 11, 1947: Plea, guilty; fine, charges dismissed as to corporation; individuals, fine of $500 as to Blaine, $100 as to Schwab, $600 total fine.
21474	Cohen Drug Co., Inc., Charlestown W. Va., and Saul Cohen.	Ephedrine, amytal, nembutal	Over the counter, Refills.	May 5, 1947: Plea, Nollo Contendere as to counts I to IX. Counts X to XVII nolle prosse on record of the United States attorney. Saul Cohen, individual case dismissed on order of the court. Fine, $200 each of 9 counts; total fine, $1,800 as to corporation.
21456	Ellis Drug Store, Clayton, Mo., and Carl P. Fletcher.	Second nembutal [2]	do	June 4, 1947: Plea, guilty as to individual counts stricken with leave to reinstate as to Ruth D. Fletcher is concerned; fine, $50 on each of 4 counts; total fine, $200.
17862	Mills Sales Co. of New York, Inc., New York, N. Y., and David Jacoby.	Phenobarbital [2]	Inadequate directions for use.	June 25, 1947: Plea, Guilty; fine, corporation, $125 for each of 9 counts; individual, $125 for each of 9 counts; total fine, $2,250.
25209	Harry W. Wilson, doing business as Shell Lake Drug Co., Shell Lake, Wis., Reginald J. Price.	do	Over the counter	June 2, 1948: H. W., not guilty; R. J. P., guilty. Wilson

25209	Harry W. Wilson, doing business as Shell Lake Drug Co., Shell Lake, Wis.; Reginald J. Price.	do	Over the counter	June 2, 1948: H. W., not guilty; R. J. P., guilty. Wilson dismissed, Price fined $75 and 6 months in prison, the latter suspended, and placed on probation for 1 year.
24261	Harry Skepner, doing business as Harry Skepner Prescription Pharmacy, Hollywood, Calif.	Seconal, amytal, pentobarbital.	do	July 7, 1948: Plea, nolo contendere; 2 counts dismissed; fine $2,000 on counts 1 and 2; total fine, $2,000; on count 1, 1 year's imprisonment was suspended for 3 years, defendant placed on probation on condition fine is paid; counts 3 and 4 dismissed.
24247	Super Cut Rate Drugs, Washington, D. C., I. A. Feld and I. S. Feld, partners, J. W. Spriggs, J. D. Cabiness, A. D. Anderson.	Amytal [2]	do	Oct. 28, 1948: Nolo contendere, first 8 counts nolle prossed by United States attorney; partners fined $300 on 10 remaining counts, each, or $600; sentence of 60 days in event of nonpayment; each of 3 individuals were fined $200 or 60 days if not paid; total fines, $1,200.
25324	J. M. Piller & Son, City Drug Store, Pinckneyville, Ill.	Sodium, seconal	do	Dec. 14, 1948: Plea guilty; fine of $100 on each of 3 counts; total fine, $300.
25594	Harold Lloyd's Prescriptions, Dallas, Tex., H. A. Lloyd, J. M. Hilsher, P. L. Stogsdill.	Seconal	do	Jan. 27, 1949: Plea, nolo contendere; firm fined $200 and each individual fined $100 on count 1; firm fined $500 on remaining 5 counts and this fine is suspended and firm on 1 year's probation; total fine, $500.
25584	John Altergott Drug Co., Kansas City, Mo.	Phenobarbital, nembutal	do	Mar. 23, 1949: Plea, not guilty; fine of $25 on each of 7 counts and $59 costs; total fine, $234.
26289	B. Plocker, trading as Fienup's Drug Co., St. Louis, Mo.; Harry Kaplan.	Benadryl [2]	Over the counter	June 13, 1949: Firm dismissed. Plea, guilty for individual, Kaplan: fine, $500 on count 1, and $1 on count 2; total fine, $501.
25327	R. C. Miller, trading as Miller's Rexall Drug Store, Macon, Mo.	Amytal, nembutal [2]	do	May 23, 1949: Plea, nolo contendere. Fine, $500 on the 3 count information.
26718	C. E. Prescott, trading as Prescott Drug, Memphis, Tenn.	Nembutal [2]	do	July 22, 1949: Plea, nolo contendere; firm fined $1,000 on the 4 count information; total fine, $1,000.
26714	Kay Surgical, Inc., Memphis, Tenn.; T. M. Wardlaw.	Seconal, amytal, phenobarbital [2]	do	July 22, 1949: Plea, nolo contendere; firm fined $1,000; individual fined $250; total fine, $1,250.
26720	A. A. Bredemeyer, trading as Madison Place Pharmacy, Cincinnati, Ohio.	Tuinal, nembutal, seconal	Over the counter, refill.	Oct. 5, 1949: Plea, guilty; $100 fine on each of 7 counts; total fine, $700.
26704	Parker's Pharmacy, Mount Healthy, Ohio; E. R. Parker.	Nembutal	do	Oct. 5, 1949: Plea, guilty; $100 fine on each of 6 counts against both defendants; total fine, $600.
26706	Benet's Pharmacies, Inc., Cincinnati, Ohio; Harry Benet.	Seconal, tuinal, nembutal	do	Oct. 5, 1949: Plea, guilty; $100 fine on each of 20 counts; total fine, $2,000 (both defendants).
26707	Harry J. Tischbein, trading as Tischbein Apothecary, Cincinnati, Ohio.	Nembutal, seconal	do	Oct. 5, 1949: Plea, guilty; $100 fine on each of 7 counts; total fine, $700.
26705	Robert Tischbein Pharmacy, Cincinnati, Ohio.	Nembutal, seconal	do	Oct. 5, 1949: Plea, guilty; $100 fine on each of 7 counts; total fine, $700.
26721	Tischbein Apothecary, Inc.; Louis Tischbein, Cincinnati, Ohio.	Tuinal, seconal, nembutal	do	Oct. 5, 1949: Plea, guilty; $100 fine on each of 8 counts, both defendants; total fine, $800.
26734	Crawford Pharmacies, Hot Springs, Ark., C. Hendricks, I. T. Ground, G. A. Butt.	Seconal [2]	Over the counter	Oct. 3, 1949: Plea, nolo contendere; by Crawford, Butt & Hendricks; information against Grounds was dismissed; 3 defendants were sentenced to 1 year's probation.
26732	E. L. Martin, trading as Martin's Drugs, Hot Springs, Ark.	do [2]	do	Oct. 3, 1949: Plea, nolo contendere; found guilty by court; sentence of 1 year's probation.
26730	Ether Ewer, trading as Ewer Drug Co., Dallas, Tex.	Sodium, seconal	Over the counter refill	Sept. 20, 1949: Plea, guilty; fine of $250 on 4 counts; fine of $500 on remaining 5 counts was "probated" for 1 year; total fine, $250.

See footnotes at end of table, p. 225.

TABLE I.—*Terminations of over-the-counter and unauthorized refill cases involving barbiturates (as of Apr. 1, 1951)*—Continued

FDC No.	Defendants [1]	Product	Violation	Date closed and amount of fine
26712	Argus Chaffin, trading as West End Drug St., Fort Smith, Ark., Cleo Wear.	Phenobarbital [2]	Over the counter	Sept. 30, 1949: Plea, nolo contendere; court found defendant guilty; probation for 1 year.
25609	Katz Drug Co., Kansas City, Mo	Nembutal	Over the counter refill	Nov. 7, 1949: Plea, nolo contendere; firm fined $100 on count 1, and $25 on other 11 counts: total fine, $375.
26711	G. R. Murchison, trading as Murchison's Pharmacy, Fort Worth, Tex.	Seconal [2]	Over the counter	Oct. 17, 1949: Plea, guilty; find of $200 assessed on the 5 counts of information; total fine, $200.
26713	McGreevy Drug Co., No. 1, Springfield, Mo., Joe Gailey.	Hexital [2]	do	Nov. 18, 1949: Firm was dismissed. Gailey plea of guilty and fined $25 on each of 2 counts; total fine, $50.
26710	McGreevy Drug Co., No. 2, Springfield, Mo., T. D. Adcock, J. G. Malley.	Hexital, carbital [2]	do	Nov. 18, 1949: Firm dismissed; Adcock guilty on 5 counts; fined $125; Malley guilty on 2 counts, fined $50; both dismissed on other of 7 counts: total fine, $175.
28117	Nu-Way Stores, Joplin, Mo., A. M. Clifford	Nembutal, tuinal [2]	do	Feb. 10, 1950: Plea, guilty as to individual; firm dismissed; fine of $25 on each of 6 counts; total fine, $150.
28114	Warren U. Rice, doing business as Rice Drug Store, Centralia, Ill.	Pentobarbital, phenobarbital [2]	do	Jan. 31, 1950; Plea, guilty; fine of $750 on count 1; probation on counts 2-6 of 1 year; total fine, $750.
28131	Eagle Drug Store, Canton, Ohio, L. F. Portman, J. Rundt.	Tuinal [2]	do	Mar. 24, 1950: Plea, guilty; fine of $100 on each of 3 counts corporation plus costs of $27.48 ($327.48); fine of $100 on count 2 against L. F. Portman plus costs of $27.48 ($147.48); fine of $100 on counts 1 and 3 against J. Rundt plus costs of $27.48 ($227.48); total fines, $682.44.
28113	M. S. Northrup, trading as Northrup Drug Store, Rich Hill, Mo.	Nembutal, phenobarbital [2]	Over the counter refill	Mar. 3, 1950: Plea, nolo contendere; fine of $25 on each of 5 counts; total fine, $125.
28105	W. J. Parker, employed by M. J. Quigly & Son, Richmond, Ind.	Nembutal	Over the counter	Feb. 27, 1950: Plea, guilty; fine, $300 on 2 counts, information against W. J. Parker.
26749	C. H. Stagner, doing business as E. Erwin Drug Co., Tyler, Tex.	Seconal, nembutal [2]	do	Feb. 6, 1950: Plea, guilty; fine of $50 generally on counts I to VII, inclusive.
26738	J. Golder, doing business as Pine Lawn Cut Rate Drugs, St. Louis, Mo.	Seconal, pentobarbital [2]	do	Mar. 17, 1950: Plea, guilty; fine of $100 on each of 5 counts; total fine $500.
25605	H. McCracken, doing business as McCracken Drug Store, St. Louis, Mo.	Seconal, phenobarbital, pentobarbital [2]	do	Mar. 20, 1950: Plea of nolo contendere to counts I, III, VI, VIII, IX; counts II, IV, V, VII stricken with leave to reinstate; fine of $200 on counts I, III, VI, VIII, IX; total fine, $1,000; reduced to $500 on Apr. 6, 1950.
28118	Ontario Pharmacy, Inc., Chicago, Ill., J. V. Gadzinski	Amytal, seconal	do	Apr. 10, 1950: Plea, guilty; fine, $300 on each of 3 counts against individuals, $100 on each of 3 counts against corporation; total fine $1,200 plus costs of $39.24.
28140	Bumpas Drug Store, Frederick, Okla., J. L. Bumpas, sole owner, Bailey Ammons.	Pentobarbital, seconal	Over the counter refill	May 12, 1950: Plea, nolo contendere; fine against J. L. Bumpas, $50 on each of 5 counts, $250; fine against B. Ammons, $50 on each of 2 counts, $100; total fine, $350.
28124	Central Drug Co., East St. Louis, Ill., H. C. Bopp	Nembutal, seconal [2]	do	May 23, 1950: Plea, guilty; fine of $100 as to individual and corporation on counts 1 to 8 inclusive, $1,600; fine of $200 as to each defendant on count 9, $400; total fine, $2,000.
28103	Cosmopolitan Drug Co., Chicago, Ill., C. Berman	Amytal	Over the counter	May 10, 1950: Plea, nolo contendere; fine of $100 on all 3 counts plus costs of $39.24 against partnership; fine of $50 on all 3 counts against the individual; total fine and costs, $189.24.
28100	Melrose-Madison Drugs, Inc., Chicago, Ill., Abe R. Segal.	Seconal	do	May 18, 1950: Plea, nolo contendere; fine of $250 against the

28100	Mesirow-Madison Drugs, Inc., Chicago, Ill., Abe R. Segal.	Seconal	do	May 18, 1950: Plea, nolo contendere; fine of $250 against the individual plus costs of $36.96; total, $536.96.
29114	Peoples Pharmacy, Gary, Ind., S. J. Figurski	do [2]	do	June 24, 1950: Plea, nolo contendere; $25 on each of 6 counts against firm and individual jointly, plus costs of $49.48; total fine and costs $199.48.
29117	L. M. Clayton, trading as Jack Clayton Drug Store, Clinton, Okla., P. E. Calmes.	do [2]	do	June 12, 1950: Plea, guilty by Clayton on 8 counts; guilty by Calmes on 1 count; fine of $25 on each of 8 counts, against Clayton, $25 on count 5 against Calmes; total fine, $225.
29121	H. W. Schaum Drug Co., St. Louis, Mo.; H. W. Schaum, H. W. Schulze	Nembutal [2]	do	June 12, 1950: Plea, guilty for the firm; nolo contendere for both individuals; fine of $125 on each of 8 counts against the partnership. Individuals' sentences suspended and placed on probation for 1 year. Total fine $1,000.
29113	M. Capestany, trading as Central Pharmacy, Gary, Ind.; D. Hernandez.	Seconal [2]	do	June 24, 1950: Plea, nolo contendere; fine of $50 on count 1 against D. Hernandez and $50 each on counts 2 and 3 against M. Capestany, Jr., plus costs of $49.42; total fine and costs, $199.42.
29109	R. E. Thacker, trading as Thacker Drug Store, Grandfield, Okla.	Nembutal seconal [2]	Over the counter refill	May 22, 1950: Plea, nolo contendere; fine of $50 on each of 6 counts; total fine, $300.
28141	Weipert Drug Co., St. Louis, Mo.; J. V. Cockrum, A. Hoffman, C. Frick.	Seconal tuinal [2]	Over the counter	June 5, 1950: Plea, guilty as to corporation to 8 counts. J. V. Cockrum, nolo contendere to count 7; A. Hoffman, nolo contendere to 2, 4, and 8; fine, corporation, $250 on each of 8 counts; total, $2,000. Individuals: Suspended sentences and placed on probation for 1 year.
28128	McDowell's Pharmacy, Akron, Ohio; J. V. McDowell	Carbrital	do	June 7, 1950: Plea, guilty. Fine of $500 against individual on count 1; court costs of $21.10 on counts 2 and 3; court costs against partnership suspended; total fine and costs, $521.10.
28104	F. C. Tuma, doing business as Tuma Drugs, Berwyn and Oak Park, Ill.	Seconal	do	May 23, 1950: Plea, guilty. Fine of $100 on each of 3 counts plus costs; total fine, $300.
28102	Fair Price Drug Corp., Chicago, Ill.; L. Mesirow, L. Levinson.	do	do	June 12, 1950: Plea, nolo contendere. Fine of $150 against corporation on each of 2 counts; $50 on each of 2 counts against individual, plus costs of $41.48; total fine and costs, $541.48.
29425	L. R. Hugg, doing business as Hugg's Drugs, Paducah, Ky.	Nembutal [2]	do	July 20, 1950: Plea, nolo contendere; fine of $50 on each of 4 counts, plus costs of $15; total fine and costs, $215.
29416	F. Albright, trading as Albright's Drug Store, Paducah, Ky.	Seconal [2]	do	July 20, 1950: Plea, nolo contendere; fine of $50 on each of 3 counts, plus costs of $15; total fine and costs, $165.
28152	C. A. Mecomber, manager of Dryden's Drug Store, North Platte, Nebr.	do	Over the counter refill	June 27, 1950: Plea, nolo contendere; fine of $100 on each of 3 counts, plus costs of $37; total fine and costs $337; defendant placed on 1 year probation on each count, the periods of probation to be consecutive and not concurrent: total 3 years probation.
28133	W. R. Sarratt, trading as North Side Drug Store, North Platte, Nebr.	do [2]	Over the counter	June 27, 1950: Plea, nolo contendere; fine of $100 on each of 3 counts plus costs of $37; total fine and costs, $337; defendant placed on 1 year probation on each count, the periods of probation to be consecutive and not concurrent; total probation 3 years.
29434	William G. Neu, pharmacist, Neels Drugs, St. Louis, Mo.	Pentobarbital [2]	do	Aug. 18, 1950: Plea, guilty; fine of $500 on count 1 and $100 on each of 5 other counts; total fine, $1,000.
29435	Carl E. Neels, pharmacist, Neels Drugs, St. Louis, Mo	do [2]	do	Aug. 18, 1950: Plea, guilty; fine of $500 on count 1, and $100 on each of 6 other counts; total fine, $1,100.

See footnotes at end of table, p. 225.

TABLE I.—*Terminations of over-the-counter and unauthorized refill cases involving barbiturates (as of Apr. 1, 1951)*—Continued

FDC No.	Defendants [1]	Product	Violation	Date closed and amount of fine
28122	John M. Cannon, trading as Everglades Pharmacy, Palm Beach, Fla., C. T. Newell.	Nembutal	Over the counter refill	July 28, 1950: J. M. Cannon died and case dismissed against him; plea by Newell of nolo contendere; fine of $100 assessed on the 4 count information; total fine, $100.
29424	Johnson's Drug Store, Inc., Richmond, Va.; G. W. Johnson.	Seconal	do	Sept. 13, 1950: Plea, guilty. Individual fined $25 on each of 2 counts; total fine $50.
28154	W. C. Dickson, trading as Medical Arts Pharmacy, Great Falls, Mont.; M. B. Eamon, O. A. Roholt.	do [2]	do	Sept. 15, 1950: Plea, guilty. Firm fined $150; Roholt fined $25; total fine $175; Eamon dropped from info.
29115	M. A. Dunn, trading as Glade Springs Pharmacy, Glade Springs, Va.	do	Over the counter	Oct. 2, 1950: Plea, guilty. Fine of $1,000 on all 5 counts and 1 year probation.
28142	Evans-Drummond Drug Store, Hattiesburg, Miss.; C. C. Drummond, R. J. Evans.	Nembutal, [2] seconal	Over the counter refill	Oct. 19, 1950: Plea, nolo contendere. R. J. Evans and C. C. Drummond fined $50 each; total fine $100.
28130	J. B. Miller, doing business as J. B. Miller, Pharmacist, Williamstown, Ky.	Seconal	Over the counter	Sept. 25, 1950: Plea, guilty. Fine of $75 on each of 3 counts; total fine $225 plus costs.
28121	E. A. Doerr, trading as Doerr's Drug Store, Murphysboro, Ill.; A. R. Morgan.	Tuinal [2]	do	Sept. 25, 1950: Plea, guilty. Each defendant fined $100; total fine, $200.
26700	James Street Pharmacy, Inc., Seattle, Wash.; S. Hague, C. A. Christenson.	Seconal	Over the counter refill	Sept. 22, 1950: Plea, guilty as to corporation. Case dismissed as to individual. Corporation fined $250 on each of 2 counts plus costs of $24; total fine, $524.
29468	Pittman-Wilson Co., Rushville, Ind.; H. N. Amick	Nembutal [2]	Over the counter	Nov. 10, 1950: Plea, nolo contendere. Fine of $50 on each of 6 counts against corporation ($300); and $25 on each of 6 counts against individual ($150); total fine, $450.
29462	Excel Drugs, Kansas City, Mo., J. Cowan, F. B. Heinzle.	Pentobarbital, seconal [2]	do	Nov. 10, 1950: Corporation pleaded guilty on all counts; J. Cowan pleaded guilty on 5 counts, 4 counts dismissed; F. B. Heinzle pleaded guilty on 4 counts, 5 counts dismissed; Corporation fined $100 on each of 9 counts ($900); Cowan fined $50 on each of 5 counts ($250); Heinzle fined $50 on each of 4 counts ($200); total fine for all defendants, $1,350.
29441	J. W. Moore, trading as Lenhart Drug Store, Bismarck, N. Dak.	Nembutal	Over the counter refill	November 9, 1950: Plea, nolo contendere, fine of $25 on each of 7 counts, plus costs of $37; total fine, $212.
29420	G. E. Stone trading as Stone's Drug Store, Mayfield, Ky.	Seconal, phenobarbital [2]	Over the counter	Oct. 23, 1950: Plea, nolo contendere as to counts 1, 2, 3, and 4; 5, 6, and 7 dismissed; fine of $50 on each of 4 counts; total fine, $200.
29418	E. Smith trading as Owl Drug Store, Fulton, Ky	Phenobarbital [2]	do	Oct. 23, 1950: Plea, nolo contendere on counts 1 and 2; count 3 dismissed; fined $50 on each of 2 counts; total fine $100.
29478	Jones Drug Co., Tucson, Ariz., W. W. Hafley	Seconal	Over the counter refill	November 15, 1950: Plea, guilty; firm and individual each fined $5 on each of 4 counts; total fine, $40.
29475	Matthias Prescriptions Pharmacy, Inc., Tucson, Ariz., W. C. Matthias.	Phenobarbital	do	November 15, 1950: Plea, guilty; corporation and individual fined $5 on each of 4 counts; total fine, $40.
29474	Taylor's Drug Store, Peoria, Ill., J. P. Taylor, R. L. Taylor.	Tuinal [2]	do	December 18, 1950: Plea, nolo contendere; charges against partnership dismissed; each individual fined $100 on each of 4 counts, plus costs of $35; total fine, $845.
29464	B. T. Smith Co., Inc., Baltimore, Md., B. T. Smith, L. Hevermanber III, C. E. Spindmire.	Nembutal	Refill	Dec. 12, 1950: Plea, guilty; each defendant fined $25 plus costs of $35; total fine $152.

29454	S. E. Piotrowski, trading as Stephen E. Piotrowski Pharmacy, Milwaukee, Wis.	Seconal [2]	Over the counter	Nov. 27, 1950: Plea, guilty; fined $300 on all 3 counts.
29450	E. E. Wiegand, Milwaukee, Wis	do	Over the counter refill	Dec. 11, 1950: Plea, nolo contendere; fined, $1,000 on count 1; sentence was suspended on counts 2, 3, and 4 and defendant placed on probation for 1 year.
29446	Budner's Pharmacy, Milwaukee, Wis., M. Ridberg, W. C. Durr.	do [2]	do	Nov. 27, 1950: Plea, guilty; firm fined, $250 and each individual fined $150; total fine, $550.
29445	J. P. Piszczek, trading as Piszczek's Pharmacy, Milwaukee, Wis.	do [2]	Over the counter	Nov. 27, 1950: Plea, guilty; fined $300 on 4 counts.
28108	M. Dunn, trading as Dunn Drug Store, St. Louis, Mo	Pentobarbital	do	Dec. 12, 1950: Plea, guilty; fined $50 on each of 4 counts, plus 8 months in jail on each count, sentence to run concurrently; jail sentence to be suspended upon payment of fine and defendant to be placed on probation for 3 years; total fine, $200.
30011	College Drug, Portales, N. Mex., C. Blue, C. F. Moore.	Phenobarbital [2]	do	Jan. 2, 1951: Plea, nolo contendere; each individual fined $100 on 1 count; sentence suspended on remaining 3 counts; case dismissed as to firm; total fine, $200.
30009	B & J Drug Co., Portales, N. Mex., T. W. Johnson	do [2]	do	Jan. 2, 1951: Plea, nolo contendere; individual fined $100 on each of 2 counts; 1 count suspended; case against firm dismissed; total fine, $200.
29467	A. Smith, doing business as Asher Smith Pharmacy, Detroit, Mich.	Seconal [2]	do	Jan. 11, 1951: Plea, nolle contendere; fined $200.
29466	S. P. Rottenberg, doing business as Courtland Pharmacy, Detroit, Mich., H. Rottenberg.	do	do	Jan. 11, 1951: Plea, nolle contendere; S. P. Rottenberg fined $200; case against H. Rottenberg dismissed.
29465	E. A. Boynes, sole owner of Boynes Pharmacy, Detroit, Mich.	do [2]	do	Jan. 15, 1951: Plea, guilty; fined $40 on each of 5 counts; total fine, $200.
30028	Mrs. R. Morris, trading as City Drug Store, Mena, Ark., T. L. Delzell.	Phenobarbital [2]	do	February, 1951: Plea, nolle contendere; imposition of sentence suspended and defendants placed on probation for 1 year without supervision.
30017	T. G. Hopkins, trading as Hopkins Nyal Drug Store, Mena, Ark., J. Sorrell.	do [2]	do	February, 1951: Plea, nolle contendere; imposition of sentence suspended and each defendant placed on probation for 1 year without supervision.
30015	J. R. Ivey, trading as Ivey's Drug Store, Mena, Ark., J. G. Bell, G. Edge.	do [2]	do	February, 1951: Plea, nolle contendere; as to firm and J. E. Bell; information dismissed against G. Edge; imposition of sentence suspended and each of the other defendants placed on probation for 1 year without supervision.
29433	Z. M. Weir, trading as Weir's Drugs & Jewelry, Owensboro, Ky.	Carbrital [2]	Over-the-counter refill.	Feb. 13, 1951: Plea, nolle contendere; fined $50 on each of 3 counts; 1 count dismissed; total fine, $150.
29693	N. Paris, trading as Paris Drug Store, Denver, Colo	Phenobarbital	Refill	Mar. 7, 1951: Plea, nolle contendere; fined $250 each on counts 1 and 2 and placed on probation for 1 year on count 3, total fine, $500.
29455	Seybold Drug Co., Poplar Bluff, Mo	Amytal [2]	Over the counter	Mar. 27, 1951: Plea, guilty; fine of $100 on each of 7 counts; total fine, $700.
29442	J. F. Borth, Sr., manager of Martin Drug Co., Poplar Bluff, Mo.	Nembutal [2]	Refill	Mar. 27, 1951: Plea, guilty; fine of $100 on each of 2 counts; total fine, $200.
29439	J. R. Storms, trading as Belmont Pharmacy, Houston, Tex.	Seconal [2]	Over the counter	Mar. 14, 1951: Plea, guilty; fine of $500 assessed generally on counts 1 and 2, to be paid within 30 days; sentenced to 1 year imprisonment on each of 4 counts, sentence suspended and placed on probation for 5 years.

[1] Individual defendants may or may not have sold barbiturates.
[2] Case also included drugs other than barbiturates.

Summary of table I with comments—Terminated cases involving barbiturates

Total number of cases terminated between the initial case, terminated Mar. 1, 1945, and the case terminated Mar. 14, 1951	[1] 100
Distribution by States of terminated cases:	
Arizona	5
Arkansas	6
California	2
Colorado	1
Florida	1
Illinois	10
Indiana	4
Kentucky	6
Maryland	1
Massachusetts	1
Michigan	3
Mississippi	1
Missouri	19
Montana	1
Nebraska	2
New Mexico	2
New York	1
North Dakota	1
Ohio	9
Oklahoma	3
Tennessee	2
Texas	8
Virginia	2
Washington	1
West Virginia	1
Wisconsin	5
District of Columbia	2
Total	100
Total of fines assessed in these 100 cases [2]	$59,609.36

[1] In addition to the 100 cases, 42 cases have been forwarded to the general counsel's office and are pending there or in the Department of Justice. At the end of March 1951 the field had in prospect about 105 cases not yet reported to the administration and about 263 leads on possible violations which had not been investigated. If these prospective cases follow the pattern of the past, over 50 percent of them will involve the illegal sale of barbiturates.

[2] The fines reported in table I include penalties for counts based on counts involving barbiturates as well as penalties for counts based on other drugs.

Mr. JENKINS. How did you reach them? Did you reach them under the violation of the interstate commerce law?

Dr. DUNBAR. That is right. In other words, they took shipments which had been shipped in interstate commerce under labels requiring them to be sold under doctor's prescriptions.

Mr. JENKINS. That is all you could do with them.

Dr. DUNBAR. We took them into court. They pleaded guilty and were fined.

Mr. JENKINS. I want you to understand that as far as I am concerned, I want you to have more power. I think this spreading of the use of dope is dangerous. This stuff is tearing down too many of our fine young people and we ought to do all we can about it. It seems to me it ought to be a local matter in the States. The druggist is right there in the State, right under the chief of police, right there under the sheriff. Then if the States could do it, do you not think they could relieve you of that trouble?

Dr. DUNBAR. If the States would pass adequate laws and would enforce them, there is no question but that the Federal Government would be relieved of that obligation. The only thing is that it is

just simply unrealistic to expect 48 States to do a job as thoroughly as that.

Here we have the Food and Drug Act which was passed originally in 1906. We still have one or two States that do not have pure food laws. That is after nearly 50 years.

Mr. JENKINS. What States are they? They must be thinly populated States.

Dr. DUNBAR. Well, they are, it is true. There is only one State that has no law and it is rather thinly populated.

Actually we have collected within the last 6 years $50,000 in fines, that is in court fines, against illicit sale of these barbiturates by pharmacists. So we do do police work, but, as the chairman brought out, we cannot do anything about an intrastate transaction.

It is also true that underworld transactions—and there are some underworld transactions—sale by houses of prostitution, by saloons, by filling stations and the like, who undoubtedly in most cases have bought these pills illicitly from drug stores, we have not been able to reach except in a few instances. We cannot reach them because proving interstate commerce in those particular cases is almost impossible.

Now there is likewise a certain amount of excessive distribution by doctors. I think that probably has been stated by Dr. Isbell. That is the exceptional thing, just like the illicit sale by druggists, but some doctors do hand out too many of these pills. We have had occasions where we have found that doctors leave blank prescriptions filed in a drug store so that somebody who wants some sleeping pills can have the necessary data filled in and the pharmacist puts it on the sticker and he is protected. That happens.

Mr. HARRISON. I have heard that some doctors used to do that in prohibition days.

Dr. DUNBAR. They got the idea then.

Now, to answer specifically your question, there is no question in my mind, gentlemen, that a law like the Harrison Act, Harrison Narcotics Act, applied to barbiturates could give control over all these areas, such as the intrastate transactions, excessive sale by doctors, the sale by druggists, the sale by saloons; it would give control of the same type that we now have so effectively carried out under Mr. Anslinger of the Bureau of Narcotics. But I am bound to say to you gentlemen that I am familiar with Mr. Anslinger's views on the practicability of an undertaking of that type of control either with the force they now have or with an enormously increased force.

I have said on some occasions, I will have to confess, that I think the narcotic law type of control was the answer, but I am very much persuaded that Mr. Anslinger's concern about the scope of that kind of enforcement work is pretty well founded. I know perfectly well that we could use ten times as many inspectors to do a complete job of enforcement of the food and drug law. Mr. Anslinger has about 180 inspectors. We have 250. But he is using up about all his facilities right now to control narcotics. What would we have to have in the way of a force in order to apply the same controls to barbiturates?

Mr. BOGGS. Doctor, what is the present actual production of barbiturates in the United States?

Dr. DUNBAR. I have a table here. The last figure we have is for 1949. We have tabulated here the production in pounds from 1941 to 1949, inclusive.

In 1949 the total production in pounds was 679,800 pounds. I believe that Dr. Isbell reported the same figure to you in tons. To get the tonnage figure, just divide the first three figures in that second column by 2 and drop off the last three; you get about 335 tons. The production has jumped from 531,000 pounds, which means 265 tons, in 1941 up to 679,800 pounds, or 340 tons, approximately in 1949.

I think, however, that that 1941 figure is a little low because it only covers two compounds of barbiturate acid, namely, phenobarbital and phenobarbital sodium. But today, in answering your question, up to 1949 it was about 679,800 pounds per annum.

I would like to put that in the record.

(The table relating to production of barbiturates is as follows:)

TABLE III.—*Total production of barbituric acid derivatives from statistics compiled by U. S. Tariff Commission* [1]

	Production (pounds)		*Production (pounds)*
1941	531,000	1946	806,500
1942	607,000	1947	900,100
1943	483,000	1948	679,800
1944	559,000	1949	679,800
1945	582,000		

[1] Data compiled before 1941 not complete since it was only for phenobarbital and phenobarbital sodium.

Mr. BOGGS. Are many of these compounds imported?

Dr. DUNBAR. No, it is all manufactured in the United States. There may be some small importation but we manufacture a tremendous amount in the United States.

May I make one statement in connection with that figure of 679,800 pounds? 679,800 pounds of barbiturates is equivalent to more than 3 billion doses of 1½ grains each, or an average of more than 8.6 million doses per day.

Dr. Isbell expressed that in another way but said the same thing. He said that amounted to 24 doses of 0.1 gram for each person in the United States. 0.1 gram is the equivalent of 1½ grains. In other words, our statements, while in different forms, are essentially the same.

Mr. JENKINS. There must be a lot of people who use that stuff besides these poor dope addicts. They could not stand to use that much.

Dr. DUNBAR. There are. There are a great many and there are a great many people who use it in moderation. Do not misunderstand me, this is a very valuable medicine under proper conditions of supervision.

Mr. BOGGS. How much of it do you think is not under proper supervision? Would you venture a guess as to what proportion of this 679,800 pounds is used legitimately?

Dr. DUNBAR. I do not have the slightest idea. I cannot give a guess. I do believe that the majority of our pharmacists are law-abiding citizens who have an ethical realization that they should sell only what the doctor orders.

Mr. BOGGS. Let me ask you this question: If these compounds are habit forming and if they have many of the effects which are the same

as the effects of imported drugs that we worry about, if we pass this other legislation tightening up on narcotics, is it not logical to assume that a lot of these addicts unable to get morphine, heroin, and marijuana cigarettes, will turn to these compounds to satisfy their craving?

Dr. DUNBAR. I think it is very probable. This is just another phase of the same problem we have in the liquor traffic.

Mr. BOGGS. You are not saying to us, are you, that it is a problem, it is a very definite problem, it is a serious health problem, and that it is such a big problem that the Congress of the United States cannot do anything about it?

Dr. DUNBAR. No, I am not. I am thinking of something in this way, Mr. Chairman, that while a bill like the Rogers bill would give absolute control, it would require the setting up of a tremendous bureaucracy, and there is probably some approach that does not go that far, maybe by an amendment to the Food, Drug, and Cosmetic Act.

Mr. BOGGS. If I may interrupt you, Mr. Anslinger made this suggestion, if I remember correctly. He said something about prohibiting the refilling of prescriptions. What do you think of that?

Dr. DUNBAR. I think that would be one approach to it. Now even then I think we would have to make some exceptions for this reason: it is a recognized fact that an epileptic can have his trouble controlled by moderate doses of barbiturates given continuously at certain intervals. Doctors who are treating epilepties make an arrangement with the pharmacist at certain intervals to refill prescriptions in limited amounts, so that this unfortunate individual will not be deprived of the medicine he needs. To set up a law that actually requires him to go to the doctor every time he needs a new prescription would be a hardship on that particular class of individual, but I think something in the nature of an exception or regulation could be worked out, perhaps.

Mr. SIMPSON. Do they not do that with morphine?

Dr. DUNBAR. I am not too familiar with that.

Mr. SIMPSON. They do in some States.

Dr. DUNBAR. But I think, Mr. Congressman, that is a proposal that deserves very serious consideration. I believe, too, that it might be possible to work out some kind of legislative approach which would restrict the retail distribution of the sleeping pills, the barbiturates, to strictly licensed drug outlets, so that the actual distribution by a saloon or filling station or what-have-you, would constitute, per se, an offense.

Of course, there you have the problem always of establishing the interstate character of that shipment, but it seems to me that there must be some way that perhaps, with the conrurrence of this committee, the lawyers of the Federal Security Agency and those in the Narcotics Bureau, might be able to work out something in the nature of a measure that would give better control and still not impose that tremendous enforcement burden that Mr. Anslinger very properly is concerned about.

Mr. JENKINS. Do you not think this can be worked out this way: In other words, basically, I think doctors do more good for the people for nothing than any other class. I do not think the doctor would

give this stuff to somebody if he thought it would make an addict out of him. It is the same with the druggist. I do not think the druggists, by and large, are bad people at all.

Dr. DUNBAR. I think you are dead right.

Mr. JENKINS. Here is what happens, it seems to me. If there is one shyster doctor in a community, all those dope addicts will find him out, and if there is one shyster druggist in the town, that is all they need, one shyster druggist, and they can furnish all the addicts in the area. I have seen it work in prohibition days. One docter in a town would give prescriptions and one druggist would fill them. It looks to me as though it is a matter of education.

I do not know why you would have to have a lot of policemen, sheriffs, and agents to go after these people. It is a problem. I am convinced of that. I do not know how to solve it.

Dr. DUNBAR. I think there is a recognition in the medical profession that the doctors should be better educated in the matter of better distribution of these sleeping pills, but I think education alone will not do it. I think you have to have some legal sanctions, in order to punish the occasional violator who has no regard for your life or the ill health of the individual.

Mr. SIMPSON. Mr. Chairman, I have not been able to satisfy my mind, after listening to the testimony last Saturday and thus far today, whether it is recognized that there is a serious problem with respect to these particular drugs or not. Do you recognize that there is?

Mr. DUNBAR. We think so, yes, sir.

Mr. SIMPSON. Well, the committee should recognize there is, and I frankly think that is our particular question at the moment—not at this moment how it should be enforced. If it is a serious problem in the country, we consequently should direct ourselves to how it can be solved. Both you and the gentleman last week touched on the administration method and said how difficult it would be. Yet, that is a relative matter. Certainly we can do it. If the States do not do it, we must do it, if we agree with you—and I think we will—that there is a serious problem before the people.

How many manufacturers are there of these drugs?

Dr. DUNBAR. There are about 50. I have another table here compiled from the Oil, Paint and Drug Reporter Green Book, 1950–51, which lists not only manufacturers, but numbers them, and I will put that in the record, if you wish.

Mr. SIMPSON. I wish you would.

(The list of suppliers of bulk barbiturate acid derivatives is as follows:)

SUPPLIERS OF BULK BARBITURIC ACID DERIVATIVES NONDOSAGE FORM*

1. Abbott Laboratories, North Chicago, Ill.
2. American British Chemical Suppliers, Inc., New York
3. American Roland Corp., New York
4. Philipp Bauer Co., Inc., New York
5. Bendrix Chemical Corp., New York
*6. Benzol Products Co., Newark, N. J.
7. Biddle Sawyer Corp., New York
8. Blackman Brands, Inc., South Hackensack, N. J.
9. Edw. S. Burke, New York
*10. Chemo-Pure Manufacturing Corp., Long Island City, New York
*11. Ciba Pharmaceutical Products, Inc., Summit, N. J.

12. Conray Products Co., New York
13. Consolidated Midland Corp., Katonah, N. Y.
14. De Lamar-Hendry Chemical Co., Inc., Chicago, Ill.
15. Desmo Chemical Corp., New York
16. European Chemical Co., Inc., New York
17. Fallek Products Co., Inc., New York
18. Gollard-Schlesinger Chemical Corp., New York
*19. Gane's Chemical Works, Inc., New York
20. Gane & Ingraham, Inc., New York
21. R. W. Greef & Co., Inc., New York
*22. Hoffmann-LaRoche, Inc., Nutley, N. J.
23. J. L. Hopkins & Co., Brooklyn, N. Y.
*24. Kay-Fries Chemicals, Inc., New York
*25. Lamex Chemical Corp., New York
26. B. L. Lemke & Co., Inc., Lodi, N. Y.
*27. Eli Lilly & Co., Indianapolis, Ind.
28. Mallinckrodt Chemical Works, St. Louis, Mo.
29. Mann Fire Chemicals, Inc., N. Y.
30. McKesson & Robbins, Inc., chemical division, New York
*31. Merck & Co. Inc., Rahway, N. J.
32. Millmaster Chemical Co., New York
33. Mutchler Chemical Co., Inc., New York
34. Nepua International Corp., New York
35. William D. Neuberg Co., Inc., New York
36. The New York Quinine & Chemical Works, Inc., Brooklyn, N. Y.
37. Novocol Chemical Manufacturing Co., Inc., Brooklyn, N. Y.
*38. Parke, Davis & Co., Detroit, Mich.
39. The Polychemical Co., New York
40. Premo Pharmaceutical Laboratories, Inc., Hackensack, N. J.
41. Purocaine, Inc., Hockessin, Del.
42. Rosenthal Bereon Co., Inc., New York.
43. The Schwartz-Schoenewaldt-Turner Corp., New York
44. The Shephard Chemical Corp., New York
45. Strong-Cobb & Co., Inc., Cleveland, Ohio
*46. Summer Chemical Co., Inc., Zeeland, Mich.
47. Tee Chemical Co., Stamford, Conn.
48. The Treemond Co., New York.
49. George Uhe Co., Inc., New York.
*50. Winthrop-Stearns, Inc., New York.

We do not have information as to the number of firms distributing barbituric acid derivatives in dosage form. The Food and Drug Administration has a record of 1,385 ethical drug firms, that is, firms whose output is intended primarily for professional use. The majority of these probably market barbiturates in some form.

Mr. SIMPSON. Through the taxing power, they could, in effect, be licensed, and without much trouble, you would at least have control over the manufacturer, I should think.

Dr. DUNBAR. Well, Congressman, there is no problem so far as the manufacturers are concerned. Let me explain, that these manufacturers are all primary manufacturers. They actually synthesize this drug. There are probably 1,300 or 1,400 distributors or manufacturing pharmacists who then take this barbiturate derivative and turn it into tablets or pellets.

Now, these manufacturers are not violating the law. They sell this stuff, which they manufacture, in bulk, and it is labeled "For manufacturing use only." In the form they put it out, it does not reach the addict at all. Then it goes to the manufacturer of tablets. There are 1,300 or 1,400 of them and they label them accurately and legally, just as these samples I have shown you, to be sold only on a prescription of a physician.

*From Oil, Paint and Drug Reporter Green Book, 1950-51, Buyers Director, and U. S. Tariff Commission Report No. 169, Synthetic Organic Chemicals, United States Production and Sales, 1949.

They are distributed in interstate commerce without violating any law. They will go to a wholesale drug house in a State. The wholesale drug house then distributed them to the various retailers. It is at the retail level, whether it be a pharmacist or perhaps a pharmacist selling to some bootlegger, where most of the trouble comes.

As I have stated, very few pharmacists violate that law, but control of the manufacturer of barbiturates, barbiturate acids, or barbiturate derivatives, or even of these pills, does not reach the ultimate problem.

Mr. SIMPSON. Is this a growing condition, one which you think will get worse?

Dr. DUNBAR. It is our impression, yes; and I think that is shared by the people in the Public Health Service, or people treating narcotic addicts. I think it is undoubtedly growing.

We have here a record of deaths. This was compiled for us by the Vital Statistics Office of the Public Health Service. It shows the number of deaths from acute accidental poisoning by barbituric acid and derivatives and number of suicides.

In 1933 there was a grand total of deaths reported of 215 as contrasted with 1,058 in 1948.

If you wish, I will put that in the record.

Mr. SIMPSON. Yes.

(The table referred to is as follows:)

Number of deaths from acute accidental poisoning by barbituric acid and derivatives and number of suicides

Year	Accidental [1]	Suicides [1]	Total	Year	Accidental [1]	Suicides [1]	Total
1933	107	108	215	1942	197	213	410
1934	145	131	276	1943	226	228	454
1935	133	133	266	1944	270	250	520
1936	165	171	336	1945	392	403	795
1937	195	219	414	1946	436	538	974
1938	199	236	435	1947	418	558	976
1939	201	222	423	1948	419	639	1,058
1940	246	299	545				
1941	232	340	572	Total	3,981	4,688	8,669

[1] From Vital Statistics of the United States. Summary and Rate Table. National Office of Vital Statistics, Public Health Service, Federal Security Agency.

Mr. GRANGER. You say you do not have any trouble with the initial manufacturers; is that right?

Dr. DUNBAR. That is right.

Mr. GRANGER. Do you have a record of the manufacturer's shipments in interstate commerce?

Dr. DUNBAR. No; we do not. They are not required to file them with us. The only way that could be gotten would be to go to the manufacturer's own records and dig them out of the records.

Mr. GRANGER. In a lot of cases you do require them to furnish a record, do you not?

Dr. DUNBAR. Where we suspect any illicit activities, yes.

For example, if we find that a pharmacist is suspected of illicit distribution of sleeping pills, our inspectors will go back to the manufacturing pharmacist and get the record of the number of shipments that have gone to that particular distributor, but there is no compulsion on a manufacturer to supply us automatically with these records. There is seldom any case where they refuse.

Mr. GRANGER. How in the world do you ever find out who is selling it illegally? Just stumble on it somewhere?

Mr. LARRICK. Our practice is to visit the coroners, the emergency hospitals, the people who deal with venereal disease, and people who come in contact with tragedies that arise from the misuse of drugs, and starting with the hospital, every time we hear of a suicide or accidental death we trace that back, find out from the surviving relatives where they got their material, and send our inspectors in that store.

If it has been a sale over-the-counter, the inspector dresses like the people dress in that particular locality, goes in and asks for some sleeping pills. If it has been acquired on a repetitious filling of a prescription, the inspector duplicates that proposition. After we have made our buys, we go into the pharmacy and if he has records, we check the number of pills that he has bought and check that against the number that he has prescriptions for. Time after time we find that there are discrepancies in the thousands. Then we have to trace that back from the retail store to the wholesale store, and we have to get documentary proof from the wholesaler to show its interstate journey, and when the case comes on for trial, we have to bring that whole line of people to prove Federal jurisdiction.

Mr. GRANGER. It seems to me, if you do not have something better than that to identify a shipment in interstate commerce, you have a difficult job to control the traffic.

Mr. LARRICK. It is a very cumbersome proceeding.

Mr. HARRISON. Let me see if I can summarize this problem.

First, it is the abuse of the prescription privilege by the doctors.

Next, it is the unauthorized refilling of prescriptions, which have not been authorized by the doctors.

Third, it is then a problem of restricting the outlet to legal druggists.

Fourth, it is the question of the adequacy of the records kept by the druggist so you can determine whether he has violated the law, and, finally, it is the proof of Federal jurisdiction.

Is that an adequate summary of the problem that you have?

Mr. LARRICK. That is right. The big thing, if it were possible legally would be to make illegal possession an offense.

Mr. HARRISON. Can that not all be solved by licensing the sale of these under Federal license, at the retail level? Is that the key that unlocks the problem?

Dr. DUNBAR. Mr. Goodrich, of the general counsel, can answer that question.

Mr. GOODRICH. As I understand it, the trouble with that is that it would involve so much record-keeping and so much policing that the Narcotics Bureau says it is impractical.

Mr. HARRISON. Is that what the Rogers bill undertakes to do?

Mr. GOODRICH. In substance. That is the big objection to it.

Mr. HARRISON. If it is not a tax feature or a revenue feature on this, then we are wasting our time, because this committee does not have jurisdiction over it. But what alternative to that do you have to solve the problem?

Mr. GOODRICH. We have had very little experience with the regulatory control under the taxing power. Our regulations have been passed under the interstate commerce power. The most far-reaching legislation that we have had was under oleomargarine at the last session of Congress, in which the taxing control was released, and a very far-

reaching bill under the interstate commerce power was passed. I offer this as an example of how far the Congress thought it could go in exercising control under the commerce power. I think this act is about as far-reaching as any I know of.

Mr. HARRISON. You said a while ago that one of your great difficulties under the commerce power was proof of the interstate character of the transaction.

Mr. GOODRICH. This bill makes the sale and distribution of colored oleomargarine within the boundaries of the State a Federal offense, based on the commerce power. Whether it is unconstitutional or not, none of us know. We expressed the view at the last session that it might be in some application, and it might not be. That is a constitutional question, which we cannot solve by legislation. You either have to exercise control under the taxing power, or interstate commerce.

Mr. HARRISON. If the Merck Co., of my district makes barbiturates, and sells them there in Virginia, you cannot say that is interstate commerce, can you?

Mr. GOODRICH. Yes; if Merck, in New Jersey, shipped them.

Mr. HARRISON. No; Merck has a plant in Virginia.

Mr. GOODRICH. Under those circumstances, you probably could not, but under this law, under the oleomargarine amendment, the fact it was produced within the boundaries of the State would make it a Federal offense under the commerce power.

There is the big problem, as Dr. Dunbar has pointed out, of proving interstate commerce. You have to go to some type of device under the commerce clause, as under the taxing power, to reach a fully intrastate activity.

Mr. HARRISON. If you are going to make it effective, whether you call it commerce, or whether you call it revenue, you are going to have to put some teeth in it, are you not?

Mr. GOODRICH. Yes, sir.

Mr. HARRISON. Of course, unless you can make it under revenue, there is no use talking to us, because we cannot do anything about it; we have no jurisdiction. Have you any proposal of legislation within the jurisdiction of this committee?

Mr. GOODRICH. No, sir; we have not worked out a proposal of legislation. We have come here with a view of participating, giving whatever assistance we can, in trying to work out some middle ground.

Dr. Dunbar has stated that he thought initially the best approach was to put barbiturates under the narcotics control, but, facing the difficulties of that, and bearing in mind Mr. Anslinger's objections to it, he has tended toward a middle ground.

We have not tried to work out anything. We shall be glad to do so if the committee desires.

Mr. HARRISON. I share your respect for Mr. Anslinger. It looks as through something ought to be done about it. Can you gentlemen draft us some legislation?

Mr. GOODRICH. We shall be glad to do so if you wish us to do so.

Mr. BOGGS. You know, in the sale of spirits, we have a law. You are familiar with the draw-back procedure?

Mr. GOODRICH. Yes; but only in a general way.

Mr. BOGGS. Well, whisky used for medicinal purposes is subject to less tax than whisky used for other purposes. Do you think this

presents more problems than were presented in the Federal legislation passed in connection with marijuana cigarettes?

Dr. DUNBAR. I do not know enough about the marijuana cigarettes to answer that. I think the barbiturate situation, from our observation, is more serious than the marijuana. I know that when marijuana was brought under the Narcotics Act, Mr. Anslinger was seriously concerned because Congress did not loosen up with any more funds. He simply had to cover a larger field with the same amount of appropriation. You cannot enforce any law without an appropriation, that is certain.

Mr. HARRISON. Do you know any Government agency that has enough money?

Dr. DUNBAR. No.

Mr. BOGGS. We have had some very frightening figures or statistics here about the problem of juveniles and addicts and those instances have shown the use of these compounds, whatever you call them. How do we meet that problem if we are going to legislate?

Dr. DUNBAR. I am trying to think whether there is anything I can add to what I have already said. We intend, with all the force that we can spare, to police the illicit distribution of these things through retail druggists. Whether that will reach it all, we seriously doubt. We do not think it will.

Mr. BOGGS. This much has been developed, and developed conclusively; that there is a serious problem. There is debate on how it should be met.

Could you gentlemen get together with the Narcotics people and see if you can come up with some concrete proposals for legislation which you think may be enforceable without creating a vast new bureaucracy?

Dr. DUNBAR. Certainly, I can promise, from the standpoint of the Food and Drug Administration, we shall be glad to do so, and I am sure the Federal Security Administrator will concur in that.

I have no doubt that Mr. Anslinger will also be willing to work on that subject. I am sure we will do everything we can to meet the committee's wishes.

Mr. SIMPSON. I have before me the present law dealing with narcotics. As you know, there are the two. One section deals with the licensing of the compounder or the manufacturer or the importer, or even the chap who gives opium derivatives away. He must have a license in order to do that. In that way we have a record, of course, as to whether a man is legitimately selling these drugs. Now, by adding barbiturates to the Narcotics Act, it would not take any more personnel in the Narcotics Division to determine whether a man has a license to sell the barbiturates. It would not be any harder to do that than to find if he has a right to sell other narcotics, would it?

Dr. DUNBAR. I do not know. Mr. Anslinger expressed the opinion that it would be.

Mr. SIMPSON. He may have; I did not hear that. But it seems to me if a man walks into a store and asks, "Do you sell opium here?" and the fellow says "Yes," then, "Do you have a license?" That settles it.

If you ask, "Do you sell barbiturates?" And he says, "Yes," then, "Do you have a license?" then you have a record that the fellow is at least licensed. That would not take any more personnel, would it?

Dr. DUNBAR. Congressmen, that is something that might be explored in this conference that the chairman has suggested.

Mr. SIMPSON. Now, there is another section of the law that imposes a tax on that which is sold. Is that not correct?

Dr. DUNBAR. Yes.

Mr. SIMPSON. As we do in marijuana. We can give them a license if they want to sell it and then we impose a tax on those who do sell it.

By use of the license, properly worded, we could limit the sale of barbiturates to the man who is licensed to sell the other narcotics generally, and avoid the sale of such things in the illegitimate places, for example, the saloon or the gas station.

We have an element of control there that we do not have today.

Then, if we impose a tax on it, just as we impose a tax now on opium and so on, on those we have already licensed, under the terms of the license, which would limit it, it would seem to me that it would not take any great increase in personnel.

I certainly agree, Mr. Chairman, that we should encourage these gentlemen to get together and try to work out a procedure.

Mr. HARRISON. Is this a profitable item to sell in the drug store?

Dr. DUNBAR. Yes. Mr. Larrick can give you some figures, I think.

Mr. LARRICK. I would say that the profit in the legitimate handling of barbiturates is no different than in the handling of other prescription drugs. The profit is compatible with what it takes to run the drug store. It is not exorbitant.

When you get into the illegitimate sale of it, the tendency is for the fellow who is going to bootleg it without prescription, to increase his price. But the money that is being made today in the illegitimate sale of barbiturates does not approach in the average case the high prices that the dope fiend pays for narcotics. It is because our control is not good enough to make it too hard to get.

Mr. JENKINS. I see on this list here you have all the large chemical and drug manufacturing houses in the Nation.

Dr. DUNBAR. That is right.

Mr. JENKINS. If the Committee on Ways and Means is going to take this jurisdiction, we will have to put a tax on this stuff.

Here is one thing. There are 40 or 50 different kinds of barbiturates in all forms. Where are we going to draw the line as to which you shall tax and which you shall not tax? All these drug companies would have to submit their formulas and so on, and somebody would have to pass on them, whether there is novocaine in there or whether there is some other drug. I think that it would be well for you to take time to think it over.

Mr. LARRICK. The problem as we see it is to try to work out the least amount of regulation and the least amount of record keeping which has a reasonable chance of doing the job.

We had a call a few months ago from the superintendent of one of our very fine hospitals here in town. He was concerned because he had a patient and was convinced that somebody was smuggling barbiturates in to the patient. This man was a man who feels very strongly that the barbiturate problem is a serious one, he would like to see it limited. After we got through with our business, we built a case around that. We asked him what it would do in his hospital if we would advocate placing the same type of restrictions on barbiturates that are now on narcotics. He said, "Mr. Larrick, if

you do that, in the legitimate use of barbiturates in our hospital, we will have to hire three more clerks to do the record keeping."

Now, we want to solve the problem, but we do not want to make everybody do any more work.

Mr. JENKINS. If you put the tax on the manufacturing, that would not stop the illicit transactions. That might make it worse.

Mr. LARRICK. Furthermore, it would jeopardize the chances of legislation getting through if it places too much hardship on too many people who are quite legitimate.

Mr. SIMPSON. I would be quite willing to take the word of the hospital that they use it legitimately. I would be willing to take the word of the drug store under penalty of perjury, that they have dispensed it properly. Then if you catch him, you would have him. That would be almost self-enforcing.

Mr. BOGGS. This is just a question out of sheer curiosity: Where does legitimate use end and addiction begin?

Dr. DUNBAR. There are some people who are able to control the use of sleeping pills so that they do not take an excessive amount. I was told by one of the men in the Public Health Service the other day that one of the greatest surgeons this country has ever produced was a narcotic user, who took narcotics regularly, but he had the will power to restrict his consumption.

He took narcotics regularly before performing an operation, but he never let it get out of control, because some of his colleagues on the faculty of one of the greatest institutions of this country watched him. He lived to a ripe old age and he never let the narcotics get the best of him.

Now, a man with sufficient will power can probably take one sleeping pill every night forever.

But, for every one who has the will power, there are a certain number who find that they don't get the sedative effect. They don't sleep on one pill, so they will take two, and after a while they are taking three, or taking four. The next step is that they have forgotten how many they have taken and they make a mistake that may be very serious, or even fatal.

These barbiturates are very valuable to us when properly handled. Yet how many of the human race has sufficient will power not to go too far is the question. That is about the best statement I can make.

Mr. BOGGS. What are the principal values, and do we not have other sedatives?

Mr. LARRICK. There has not been any drug found which has the wide value of the barbiturates as a sedative, which is not habit forming.

This drug, for example, was one of the most useful drugs that the Army had in the war for the soldier who was wounded. There would be first-aid stations with hypodermic needles of one of the very important forms of these barbiturates, which would relieve pain. They are used very extensively in obstetrics for the delivery of the child. They are used in all manner of serious diseases, where the patient needs to be quieted and rested.

Before most major operations, barbiturates are given. It is just unfortunate that a drug which has so great values, also has such great capabilities for harm.

Mr. GARRISON. There are a few other drugs that relieve pain that are also habit forming, such as aspirin and bromo seltzer?

Mr. LARRICK. We gave a lot of consideration to that at one time, because our law says that any drug that is habit forming must be so labeled. We had a lengthy hearing involving the experts of the country, and we finally promulgated a finding that goes like this:

> Psychic dependence on a drug is habituation to that drug, and psychic and physical dependence on a drug is addiction to that drug, so that addiction to a drug includes habituation to that drug. A drug which is likely to induce, and, in certain persons does induce, habituation to such drug, is a habit-forming drug, although repeated use of that drug may not necessarily induce addiction to that drug.

In the accepted sense, I would say that aspirin and acetophenetidins and these other drugs that you are speaking of are not habit forming in the sense that these drugs are. If they are habit forming, they are so in the same way that cigarettes are habit forming.

Mr. HARRISON. There are aspirin addicts, though?

Mr. LARRICK. That is right.

Mr. BOGGS. Thank you, gentlemen.

Mr. HARRISON. Mr. Chairman, I move that we postpone further consideration of this particular subject until we hear further from these gentlemen.

Mr. BOGGS. Can you give us a report in about 30 days?

Dr. DUNBAR. I guess so. You have given us quite a job to do. We may run into some very serious drafting problems.

Mr. BOGGS. We may give you 10 days more.

Mr. GOODRICH. Shall we take the initiative with the Bureau of Narcotics?

Mr. BOGGS. You take the initiative. We will notify the other agencies to cooperate with you.

You have heard the motion. Is there any objection?

If not, the motion is approved.

(The following letter was received for the record:)

THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS,
Washington, D. C., May 16, 1951.

Representative HALE BOGGS,
House Office Building, Washington, D. C.

MY DEAR CONGRESSMAN: We are herewith submitting a technical amendment to your bill, H. R. 3490, which is concurred in by the Commissioner of Narcotics.

On page 3, section 2, line 25, after the word "provided" insert "in section 2557 (b) (2) of the Internal Revenue Code." This addition is merely a technical one, written to spell out the liability of a retail pharmacist if he were accused of a technical violation.

Your consideration in making this addition to your bill will be sincerely appreciated.

With kind personal regards.

Cordially,

GEORGE H. FRATES,
Washington Representative.

(Whereupon, at 5:15 p. m., Tuesday, April 17, 1951, the hearing was recessed subject to the call of the chairman.)